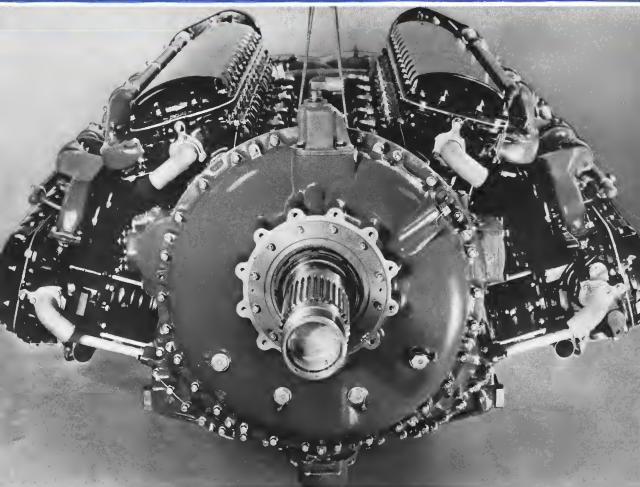


Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC.

MAY 29 1944



Most Powerful Aircraft Engine: *This new 24-cylinder liquid-cooled engine, developed and produced by Allison Division of General Motors, is ready for installation in fighter planes still on the secret list. It will increase power of most single-engine fighters by several hundred horsepower. (Story on page 9)*

British Consider U. S. Committed to Air Freedom Policy

Roosevelt speech, reinforced by Berle talks in London, regarded as indicative of American policy on innocent passage and technical stop....Page 13

ATC, 3 Years Old, Now Serves All War Fronts

"Secret weapon" operates 125,000 miles of air-
lines, compared with 100,000 in American civil net-
work in foreign and domestic fields.....Page 10

Lee Quits West Coast AWPC to Revitalize ACCA

Head of Aircraft War Production Council to
make recommendations for reviving Chamber to
meet reconversion, post-war problems.....Page 7

CAA Forms Planning Unit to Aid in Port Development

Organization designed to work with state and
local groups on programs suited to individual needs
of communities.....Page 16

Return of More Planes Presents New Airline Problems

Raising of ceiling from 200 to 300 and actual
turning back of aircraft, with more in offing, gives
companies new complications to cope with..Page 36

Schedule Revisions Seen as Tactical Needs Change

Unit production for May expected to drop under
9,000 mark but poundage probably will increase as
result of shift to heavier models.....Page 29



The Spring of everlasting youth

This is the spring that helps bring "blind" flyers home—silk lurking submersible enemy planes out of the sky.

Smaller in diameter than a pencil . . . made of special bronze alloy, it serves "true", resists too tension always. Used in Westinghouse instruments, it makes possible close calibration, and keeps that calibration uniform, permanently.

Made by a special process developed by the Westinghouse Metal Division, these tiny spirals are precision-made to extremely close tolerances.

Their structure is held absolutely uniform throughout their manufacture. Rigid torque inspections and individual tests ensure correct motion characteristics.

These accurate springs are only one of many outstanding features of the complete line of instruments made by Westinghouse for the aviation industry. For additional information . . . help in solving your instrument problems, phone your nearest Westinghouse office. Or write Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., Dept. 7-N.

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THE AVIATION NEWS

Washington Observer

SURPLUS TRANSPORTS—Recent suggestions that the government sell surplus military transport planes, rather than those needed at home, to operators throughout the world, are approved by several airline management, plane manufacturers, and by some federal officials responsible for the disposition of surplus war property. Advocates of this plan say that if the planes are well serviced and made to give satisfactory performance the writers will not only be in the market for parts, but that they will become acquainted to the equipment, and when the time comes to replace it they will naturally turn to the makers.

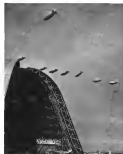
AIRLINE COSTS—Several airline management are including high salaries of pilots among their more expensive operating out items which will help to keep passenger and cargo rates above the reach of many persons and commodities for a long time. They say the average pilot salary in 1935 was about \$850, now it appears to be around \$100 or more. Many individual salaries, they say, are in excess of \$1000. These management claim this compensation is disproportionately high considering the pay and the training and ability required in some other professions. The pilots' union holds the pilots up, they say, and they feel that, with thousands of pilots available after the war, the Civil Aeronautics Board will take cognizance of the situation in arriving at its rate-making decisions.

CIVIL SERVICE PROBE—Don't expect any early or startling action on the reported probe of the Army civilian employment rolls at Dayton. Reports of the investigation by the Civil Service Committee of the House now after funds were voted to send Civil Service investigators to out-of-Washington governmental establishments. Also on the list are Philadelphia, New York, San Francisco, Chicago and other cities. Chairman Roosevelt (D-Ga.) anticipates some revelations, but the worst thing has been true of almost every investigation in governmental agencies, and particularly in war establishments.

DOUGLAS AGREEMENTS—The arrangement made between Douglas Aircraft and the Canadian government for the manufacture of DC-4's in Canada has aroused speculation as to whether this may not foreshadow similar agreements between Douglas and other nations. While

Douglas officials are silent on the matter, it has been observed that some foreign airlines may be faced to use airplanes manufactured in their own countries. Such a stipulation could be followed under an arrangement where Douglas planes would be manufactured outside the United States. Douglas planes are a familiar sight around the world now and the possibilities of building on this reputation a further good will through service and maintenance facilities after a bright prospect.

TEN-HOUR DAY—A nationwide survey is determining the advisability of instituting two 10-hour shifts in place of three eight-hour shifts is being made by the War Department with a view to potential savings in manpower. A number of aircraft companies have increased productivity and efficiency under the two-shift program and it is reported to have worked well even in departments employing women. Local conflicts might work against the two 10-hour shifts in some areas, but there is some agreement on



Blimp maneuvering at Navy's Moffett Field.

Capital Hill where a number of members of Congress are in the substitution of two 10-hour shifts for three eight-hour shifts, a move that would go far toward solving the problem.

25 YEARS OF SERVICE



SINCE 1919 in the oil fields of the world the significance of the Guiberson trade mark has been proved by the saving of billions of dollars in time, in equipment and in increased recovery of oil.

In the tasks of our armored forces it has been proved by the hard-fighting dependable performance of the Guiberson radial diesel engine.

On the airways of the world it is being proved day after day by the reliability and service of flap track supports, fire walls, engine mounts, manifold and hundreds of other Guiberson built aircraft parts that are embodied in America's fighters and bombers.

With hydraulic presses, drop hammers, precision machine tools and the South's finest heat-treating facilities, Guiberson is meeting the most exacting engineering and manufacturing standards of the world.

After 25 years "Better Be Safe Than Sorry" is today the criterion of precision-built equipment produced in one of America's finest plants.

And when victory is won the Guiberson "G" will carry forward the precision production of products wrought from the metals of the world.

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Dallas, Texas



AVIATION NEWS

May 28, 1944

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MANPOWER HEADACHE—Although there are many manpower problems currently and ahead and new calls for work or fight personnel, there is a feeling among some high Washington officials that personnel is not in order and that the situation will show definite signs of improvement. The Selective Service situation appears to be clarified for the first time in months and other factors are working toward a betterment. While the problem still exists, the general outlook is not so bad as was pictured a short time ago. There is bound to be a shortage in some areas and an oversupply in others, but officials have found no way to make workers move to the critical areas in large enough numbers to be effective.

INCENTIVE WAGE PLANS—Incentive wage systems are still being plugged and war plants using them are said to be showing production increases averaging about 37 1/2 percent. About 366 war plants now have wage incentive programs of various types. The output of one plant was up 185 percent, with the minimum increase in the group about 15 percent. The unions have accepted the systems here and there, but many individual unions are not sold. Some officials in Washington are still working for the plan, say they definitely pay dividends in increased production.

FOREMEN'S STRIKE—The quick settlement of the foremen's strike, after the appeal by General Arnold, was most welcome in official circles in Washington charged with the production program, but there was a strong feeling of disappointment among some who felt that the strike

Washington Observer

had been settled on an emotional appeal and without a settlement of the fundamental issues involved. Probably the last of this controversy still has not been heard.

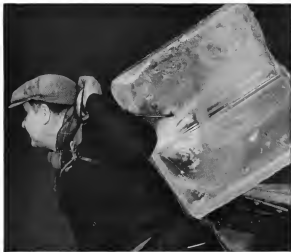
RAILROAD BOMBING—The technique of bombing railroad embankments yards in Germany territory—disclosed earlier to be more effective than previously thought in the past—was uncovered in part by General Arnold at his recent news conference. If the AAF hits a 20 to 25 track yard, the Germans can have one through track operating in 24 hours, Arnold said. But—if the bombers cut the tracks on each side of the yards to prevent the Germans from making up work trains and getting into the yards for repair work, they stay out for days.

BRITISH CIVIL AVIATION—The British are not going to be caught short when civil aviation—particularly international civil aviation—was started up again. The RAF is releasing air technicians, presumably for physical reasons, and they are being sent to an air traffic school operated by British Overseas Airways Corp. BOAC, incidentally, now is operating 196 aircraft allotted by the government.

FARE DIFFERENTIALS—Sleeper planes and luxurious trans-continental routing services will not grow as rapidly after the war as the public expects, is the opinion of the official airline research men. The day is past when all airline service will be sold at the same rate. The big gain in traffic will be in flying deplanes, comfortable but not luxurious or spacious. Rates for these services will drop.

Allied gliders poised for Burma Air Invasion





His load could break a bomber's back

TAKING 100 LBS. OF ICE spread is taking the leading edge of a bomber's wing... and you have a perfect recipe for trouble.

Most people are surprised to learn that ice loads can be such a big flight hazard, because they think the sharp weight of ice is what forces a plane down. Actually it is a slow ice forces that counts.

The ice accumulates on the leading edge of wings and not assembly. As ice builds up, it changes the contours of wing edges and thus the course of air flowing over wing and tail. Since the normal course of air flow gives a plane its lift, any change due to ice decreases lift rapidly and increases the danger of stalling.

Yes, all winter long, our planes are flying successfully through some of the

worst icing conditions in the world. The B. F. Goodrich rubber De-Ice-ers makes this possible.

If you've ever picked up an ice-glazed leaf, bent it, and noticed how the ice cracked off, you know the simple principle of De-Ice-ers. De-Ice-ers are flexible rubber strips attached to leading edges of wing and tail. When ice forms, rubber inside the De-Ice-ers is inflated and deflated by air pressure. This causes a leading action which cracks the ice. The windshield craves it away.

B. F. Goodrich De-Ice-ers can be installed on all curved surfaces. They require only a small fraction of the plane's total weight. They add a tremendous factor of safety. Without them, year-round safety operation would be impossible in many areas. Every bomber

no English and Berlin would be impractical most of the year. And casualty reports would be greater than when such was Germany.

Introduced in 1939, the De-Ice-ers is one of the most famous of all B. F. Goodrich "First's"—one of the greatest single contributions to pre-war flying safety. The B. F. Goodrich Company Aeronautical Division, Akron, Ohio.



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VOLUME 1 • NUMBER 44

Aviation News
McGraw-Hill Publishing Co., Inc.

May 29, 1944

Lee Quits West Coast AWPC To Take Over ACCA Overhaul Job

Head of Aircraft War Production Council to make recommendations for revitalizing Chamber to meet difficult problems of reconversion and post-war era.

The long over-due revitalization of the Aeronautical Chamber of Commerce, national trade association of the aircraft manufacturing industry, appears to be under way. Based on an agreement among top executives signed by ability and training to make it a point concern.

John Lee, manager of the Aircraft War Production Council, West Coast, has resigned that post for a three month period during which he will overhaul the Chamber organization and make suitable recommendations to the Board of Governors to accomplish the goal desired by the industry—that is to create a strong, vigorous, alert trade association which will represent the industry as a whole in meeting the complicated problems which he faced.

United Front.—The solution of these multitudinous problems will determine the industry's future and destiny and the industry at long last has reshaped the necessity for a united front.

Lee arrived in Washington this week to take over a three-month job of putting the Chamber on its operating feet, a difficult task which he thoroughly appreciates and a task which will have to start with revitalizing the Chamber to its former position of prestige and influence.

Program.—Generally, the program set on by the industry calls for modernization of Army and Navy Air Forces at such strength and in such a state of readiness as to preclude a successful assault on our country or its possessions; acquisition and maintenance of resources essential to our security and that of overseas trade; facilitating the orderly and economic expansion

of domestic and international air transport and private flying and preserving a strong aircraft manufacturing industry.

In addition, the industry is faced with the vital issues of control regulations, contract negotiations and post-war need money as a part of the task of reconverting aviation to a peacetime economy.

Educational Program.—To implement the outlined program, an extensive public education and public relations program is being worked out by Hill and Knowlton, and with the firm of Lash and Lee

as the West Coast outlet. The Chamber has had no public relations program as such for nearly two years and, naturally, the work to be done in this field presents almost unlimited possibilities.

The Chamber's Executive Public Relations Committee, selected at the recent meeting in Los Angeles, met in New York last week with Lee and representatives of Hill and Knowlton to work out a public relations plan. Members of this group are Avery McBeck, Glenn L. Martin Co., Harold Macfield, Boeing, A. M. Hoshier, of Douglas, L. D. Lyman, United Aircraft, Joseph E. Loewen, Jr., Fairchild, and Herbert L. Sherrick, Bendix. Leonard Schwartz, of Lockheed, attended as alternate for Hoshier and Norman V. Clements and Ted Sullivan, as alternate for Lyman.

Committee.—The group decided on the organization of a general Chamber Public Relations Com-



THE GENERAL CHECKS UP:

Progress of newest secret developments of the Army Air Forces Materiel Command were displayed and demonstrated to Gen. H. H. Arnold, commanding general, AAF, at Wright Field in connection of the command recently left to right: General Arnold, Brig Gen. F. D. Carroll, Materiel Command engineering division chief, and Maj. Gen. Charles E. Brenshaw, commanding general Materiel Command, at Wright Field.

area compared with the horsepower increase.

Allison reports a definite decrease in the weight per horsepower in the design of the new powerplant. While no figures are given, this weight was less than one pound per horsepower in the 12-cylinder Allison.

► **Started in 1937**—Development of this most powerful engine was started at Allison in 1937, when work was begun shortly after the first 12-cylinder powerplant passed its tests at Wright Field. Development was delayed during 1939 and 1940, due to demand for further development and production of the twelve-cylinder type to meet specific fighter plane needs.

Concentrated work on the 24-cylinder engine was resumed in 1941 and completed early in 1942.

► **Novel Installation**—The new engine not only can be installed in a conventional fighter plane models but, according to Allison engineers, it has been specifically designed for so-called buried installation. This means that an multiples it could be used to power the largest multi-engine plane.

The buried engine installation looks to the ultimate dimensions of powerplant drag and the new crankshaft arrangement of the engine indicates possibilities of novel installations.

ATC, Born Three Years Ago, Now Spreads Wings to All War Fronts

"Secret weapon" operates 125,000 miles of airlines compared with 100,000 in American civil network in U. S. and abroad.

By WILLIAM G. KEY

The Air Transport Command, child of the air transport industry grown to man-size stature, today observes its third anniversary.

It is one of the secret weapons of the United States, the man of the air genius of the country built into an organization that has far outgrown its parent, and has established a network of aerial routes stretching 125,000 miles in all the world's battlefronts. In comparison, American civil airlines have been operating slightly under 100,000 miles in foreign and domestic fields.

► **Manned by 100,000**—To do this, 100,000 officers and men have been and now operate the buses, fly the planes and perform the myriad functions that parallel commercial airline operations for the world's fighting men.

In doing it, the ATC-man flew 2,193,000 hours last year, and in December alone flew 245,000 hours

—equal to more than 11,000 commercial flights across the United States.

Probably the best gauge of the far-flung operations of ATC is reflected in the fact that of its 890,000,000 passenger miles flown last year, 97 percent of them were in foreign operations.

Overseas May 28, 1941, as the Ferrying Command to deliver American-made planes to the Allies, then fighting the Germans and Italians, the ATC has rolled up the impressive total of 848 million miles flown in transport and ferry flights.

► **Have 300 Planes a Day**—Virtually every American plane on the world's fighting front has been flown by the ATC, which in February of this year was moving 300 aircraft a day—to modification and installation centers, training fields, and ports of embarkation. How many other handsets are being

flown directly to overseas combat areas by the ATC is not revealed, but last year 99.7 percent of all planes accepted for delivery were delivered safely.

Original function of the Ferrying Command, first headed by Maj. Gen. (then colonel) Robert Olds, was enlarged in July, 1940, several months after Maj. Gen. (then colonel) Harold L. George had assumed command, and the name was changed to the present Air Transport Command. Operations then under the Air Service Command



Maj. Gen. Harold L. George

pilots and technicians in the Army were functioning the world over. Airlines at home were termed this great school for training transport pilots, navigators, mechanics, flight engineers, radio operators and airport specialists.

And out at Douglas, the military vestibule of the DC-3's and DC-4's began rolling off the assembly lines in quantities for these crews. The Curtiss C-46 Commando made its bow and its short nose became familiar to armies from Adak to Amser, from Port Moresby to Prestwick. Liberators had their punch drilled and became drop-noses of the big skies.

► **Three Years Later**—Today it is possible to fly 683,000 pounds of material, munitions and supplies to one theater of operations in a single day. It is possible to bring a man with a broken back from Kanchung, China to Washington, D. C., in 67 hours.

Burroughs Named

Sing Gen Paul E. Burroughs has been appointed commanding officer of the Domestic Transportation Division of the Air Transport Command with headquarters at 33 Pine St., New York. His appointment was announced last week by Maj. Gen. Harold L. George.

General Burroughs was awarded the medal and sash of Honorary Officer of the British Empire (Military division) for his work as liaison officer between the Ferrying Command, predecessor of the ATC, and the RAF Ferrying Command in the early days of the war. He entered the Army as a private in the signal corps during the last war.

These men's status—the Indians, Chins, Wags of the ATC is credited with flying more war supplies to China each month than was taken in by the Burma Road at its peak, and last year more than 3,000 sick and wounded men were flown to this country from combat areas overseas for treatment in hospitals at home.

► **"Responsible"** John Dade—The tide of war changed. Sumner was held from the Nile by the British when the ATC and the RAF flew tons of anti-tank gas shell fuses from the nearest source of supply in the United States in three days. The 14th Air Force in China was kept in the air by supplies flown in from India. Air Commandos stationed over the Japanese back in Burma and border it with airborne supplies. The weapon was working.

The India-China Wing is the first non-combat organization to be the president of aerial operation. Other Wings are the Pacific, Alaska, North Atlantic, South Atlantic, Central African, North African and European. Together, they fly more than 8,000,000 miles each month in transport operations. Roughly, approximately 12,000,000 miles are flown in ferrying operations.

Fitch Deputy Chief Of Navy Air

Vice Admiral Aubrey Fitch, commander of aircraft in the South Pacific for the last two years that have seen Japanese power driven from the skies, will become Deputy Chief of Naval Operations (C-2).

Secretary of the Navy James V. Forrestal announced the appointment late last week in a move that may passage greater organization for Navy Air in command circles in Washington, now that deadly blows are to be mounted against Japan.

► **Other Shuffles**—Forrestal said that Rear Admiral A. W. Redford, former Pacific task force commander who has been acting as assistant to Vice Admiral John S. McCain, will set in the Navy's top air post until Fitch takes over. McCain's new assignment was not disclosed, and Forrestal similarly refused comment on the new assignment of Admiral William F. Halsey, Jr., who commanded joint operations in the area in which Fitch directed air operations.



Tying a World Together: The world-wide airline run by the Air Transport Command stretches to 65 fronts.

Arnold Press Talk Bares New War Data

Digest of unpublished material shows increasing parity of German industry and military power through air blows at vital plants and communications.

General Henry H. Arnold's news conference, largely covered by the press from the standpoint of planes shot down and raids accomplished, disclosed other results of particular interest to aviation. Among them were:

• The Germans now can't meet industries in the east to get out from under Allied bombing attacks. The Allies can reach them and the Russians can reach them.

• Little's construction battalions have been able to do remarkable jobs of rebuilding bombed-out factories. An assembly plant can be rebuilt and back in production in from six weeks to two months and a machine shop in three or four months. "That is why the Allies go back," the admiral is quoted.

• The materials are organized and "concentrated" and there is no shortage of machine tools to move in and get things going again. Questions brought out that the Germans were shipping machine tools to Sweden as late as January and Arnold said it is believed the Nazis have all the machine tools they can use. They have duplication of most of their tools ready, he said.

• Allied armor is back with it they are sure factories have been wiped out. Arnold pointed to attacks on Brunswick on Feb. 20-21-22 and Mar. 9-10-11-12-13, during the period when bad weather was hampering operations and the planes were bombing through the overcast.

• There is little chance of preventing actual damage, or reducing it. At Munster, aerial reconnaissance photos showed plants which had been wiped out. In three months they were rebuilt and producing.

• Arnold did not discuss any strategic bombing locations in the Lowlands or France for "security reasons."

• German reaction is strongest now when the heavens go in after synthetic oil plants. At first when the bombers went into Germany, 400 fighters would be encountered on almost every raid. Now the number of fighters down is less and the character of objectives, with the bombers seldom encountering more than 200. The Nazis, Arnold said, have been forced to a de-

cision—whether to stop the Bomber Command or save their air force for the invasion, since they can't do both. But don't get the idea that the German air force is destroyed, he said, because it isn't.

• German half-bearing traverses have been cut 50 percent, the general said, adding that the Germans would be in a bad way without outside help.

• Arnold hinted better rocket weapons are on their way. He said the 13th AF is using rockets and that "maybe better rockets" will come into service.

• As to the question of unification, "I think my position was covered very well in the War Department presentation before Congress—I don't think of anything I can add."

• The movement into the Pacific is going to be a "terrible" job. Logistics problems are staggering, plane needs are not the same, and training may be different. None is insurmountable and "all will be solved," he assured the movement leaders," he noted.

• Germans in Italy have been reduced to supplying their troops by night over roads, Arnold said, adding that all railroads have been cut since Mar. 26. Strategic bridges have been cut also, and convoys caught on the roads in daylight have been covered up. "It'll be interesting to see the effect on the present campaign," he commented.

• TheAAF has not yet reached its peak, and the attacks on enemy holdings will not reach their maximum intensity until several months after that peak has been reached, Arnold said. Crews have to be brought to operational standards.

• Any plans to attempt to break the P-51's cross-country records. Only one catch—Arnold said the Soviets must be just like the P-51's to make any sense. The P-51's are "very right." He said Col. Peterson, his personal pilot, left Washington late one afternoon, reached the West Coast the next morning, flew back to New York that same day with a stop just off the line. P-51 would have trouble meeting requirements. It's made on East Coast and would be really looking along to break the record by flying east-to-west.

• The tactical air force in the European theater does not have the ground strength that ground troops will get all the support they can use in the invasion.

• The B-29? No comment.

200-Ton Top Seen For Post-War Plans

Herbert Warner, vice chairman of the Civil Aeronautics Board, expressed the belief that "we are ideally, although by no means certain, to see aircraft of over 300,000 pounds gross weight in use within the next 10 years, and the maximum weight may reach 400,000 pounds but probably will not go as appreciably beyond that."

• Points for Heavyweight—Estimating that, for purposes of civil aviation, 25 airports in the United States capable of handling airplanes above 150,000 pounds, probably will be sufficient, he said three main questions are involved in determination of airport capacity needed for future transport operations. These involve the amount of transport traffic metropolitan airport facilities may be expected to handle in "a reasonably near future," the question of a single airport vs. several airports for a given metropolitan area, and that of runway length.

Declaring the assumption that larger airports are needed because of increases in aircraft size is a "widely prevalent misapprehension," Dr. Warner said a Boston analysis that little could be gained in short-range operations from use of four-engine aircraft.

Declaring the assumption that larger airports are needed because of increases in aircraft size is a "widely prevalent misapprehension," Dr. Warner said a Boston analysis that little could be gained in short-range operations from use of four-engine aircraft.

Air Group Elects

The newly organized New England Aviation Trade Association has begun functioning with election of Lee Rowman, head of Boston Flying Service at Kent, N. H., as president. Other officers are Warren Featherhairs, of Claremont, N. H., vice-president; Joseph Garnde, of E. W. Wiggins Airway, New Bedford, secretary; and Harold H. Murphy, of Murphy Mass., treasurer. Elected to the executive board were Arthur Pashin, of Waterville, Me.; Perry Feenagay, of Fitzhugh, Mass.; and Harold Trout, of Philadelphia.

New Aerospace

The nation's top military and naval aviation commanders report as our increasing world role expands that the need for a new aerospace, international aviation year book just published, discussing details of the success of our planes on all fronts.

British Consider U. S. Committed To World Accord on Air Freedom

Roosevelt speech, reinforced by Beale talks, regarded by London as indicative of American policy in support of right of innocent passage and technical stop.

The British Government considers the United States committed to do all it can to obtain an international air agreement providing right of innocent passage and technical stop, and evidently bases this conception of American policy on remarks about freedom of the air made by President Roosevelt at a news conference months ago.

Whatever was said in this connection by Assistant Secretary of State Adolf Berle, Jr. during his talks with Lord Beaverbrook reinforced the conception.

• Beaverbrook Talks Studied—These salient facts emerged from the recent two-day, much-discussed session of an eight-week visitation in the House of Lords last week, unfortunately they have been utterly obscured by Senatorial curiosity and consequent news stories about what binding agreement Berle may have made in London.

Official transcript of Beaverbrook's addresses and accompanying debates on May 10 and 11 arrived in Washington last week. They filled to support most of the assumptions of some Senators about Berle's conversations, but, more significantly, they reveal the importance the British attach to the President's seemingly casual press conference remarks.

• Beale Roosevelt—On May 10, Beaverbrook told the Lords, "The President has made certain promises for future international civil aviation. He has declared for the right of innocent passage for all nations throughout the world, and for the right to land anywhere for refueling and other non-traffic purposes. I am authorized by the Prime Minister to say that we join with the President in the fullest extent in subscribing to these principles. I repeat, principles, the right of innocent passage for all nations throughout the world and the right to land anywhere for refueling and other non-traffic purposes."

The next day Beaverbrook asserted that the President's "declaration about innocent passage will have a great influence, an immense effect, and is bound to be

the subject of much discussion at the international conference." He went on to say that Mr. Roosevelt obviously could not guarantee innocent passage over France, Spain or Poland, for instance, and concluded:

• Would Parley Unlawful?—We (apparently the U. S. and Britain) are trying to bring there is an international conference and to get them to sit down around the table with us and to say, 'Yes, we give you the right of innocent passage.' This, it is obvious from both Beaverbrook's speeches and Berle's testimony on Capitol Hill, is what

the two countries seek, and those who regard it as a commitment, presumably may make the most of it.

Beaverbrook's speech on May 10, meantime, was distributed by the British Information Services in Washington and was read widely to see how it matched a press dispatch which stated Beaverbrook as saying Britain favored an American-sponsored free freedom of the air idea. This idea was not found in the speech and a certain respect to the News from London said Beaverbrook was quoted.

• Four Freedoms—In his speech the next day he said:

"There are four freedoms and ancient promises in one of the four freedoms. But I do not want to go into the four freedoms today." That, as far as official records reveal on this country alone, is as close as Beaverbrook came to speaking of four freedoms.

Senators, however, found something else to analyze. They noted that Beaverbrook said, "Mr. Berle has assured me most generously as to the supply of transport aircraft in the period immediately following the war, on a non-discriminatory basis . . . is the assurance which I give the House with Mr. Berle's authority."

• Planes for All—The State Department, under Secretary of War, was quoted about this, that obviously the United States will be prepared to sell planes to any friendly buyer or when the war is over. The Senators concluded, however, that Berle's statement was the country's most powerful bargaining weapon go by the board, and with no reciprocal assurances

Russians Arrive

A Russian delegation of five men in Washington to start talks with State Dept. officials on post-war aviation. Three of the group have been in the capital and the other two arrived last week. Discussions are to start this week.

The State Department group is headed by Joseph G. Grey. His technical advisers are William A. M. Burden, Assistant Secretary of Commerce, and L. Welch Pomeroy, chairman of the War Relocation Authority.

Informal talks on post-war air matters also have been held with the Chinese, but only on an unofficial basis.



HEADS MACHINE TOOL COMMITTEE

Major Britton, a director of McGraw-Hill Publishing Co. since it was formed and a vice-president since 1927, has been appointed American member and chairman of the Machine Tool Committee of the Combined Production and Resources Board, and a consultant for the Surplus War Property Administration, under headquarters in Washington. He will retire from McGraw-Hill July 1. During the present war he has served as Director of Tool Production for GPC, as treasurer and a member of the Executive Committee of the War Advertising Council, and as a member of the Business Advisory Council of the Department of Commerce.

about use of British bases. About the bases acquired in the destroyer deal, for instance, Brewster told the Lords, "the question of civil aviation in connection with these bases has never arisen as far as I know . . . they cannot be used for civil aviation without our consent."

Objectives: The speeches made perfectly clear what the United States and Britain had agreed to seek at an international conference.

"An international convention in air navigation, to be implemented by an international transport organization which would evolve standards, seek to eliminate un-economic competition, work out to seek national equitable participation to world air transport, and maintain a broad equilibrium between air transport capacity and the traffic on order." These are Brewster's words.

WEST COAST REPORT

Industry May Form Air Publicity Group

Plan studied with view to keeping alive West Coast public's enthusiasm over aviation manufacturing.

By SCHOLAR BAÑOS

Creation of an alert and influential industrial public relations agency to keep at a high level public enthusiasm over what is today the West Coast's biggest industry may be considered soon by major western aircraft manufacturers.

They have long appreciated the economic and political value of inclined good will, such as that fostered successfully in Detroit by the automobile industry.

To gain it through western operations of the Aeronautical Chamber of Commerce may prove impractical because of the necessity that the Chamber, with nationwide membership, display no geographic favoritism.

That it will not be palmed through courtesy Chambers of Commerce is becoming increasingly apparent.

Adaptation of the aviation department of the Los Angeles Chamber of Commerce into that Chamber's transportation division, dominated by surface carriers, illustrates the trend in the aviation capital of the west. What drumbeating is done for Los Angeles aircraft manufacturing industry is being done almost exclusively by factory publicity departments. The situation is comparable in San Diego and Seattle.

Western airplane builders, who post-war will want to keep their names strong in the public mind in their promotional and sale of a wide variety of consumer goods in addition to aircraft, have the structure and manpower for such a promotional organization available in the West Coast's Aircraft War Production Council, Inc. Whether they will attempt such postwar use of AWPC or send key men of the Council into the Aero Chamber may be determined by coming lists of the Aero Chamber's national officers.

STREETCAR SERVICE: An important nucleus of public demand for post-war "streetcar" service by

air lines is growing among thousands on the West Coast, and undoubtedly throughout the nation, who have become jaded wartime habitues of air line ticket offices. Priority travelers, as well as busy-banged non-priority business men, insist that after the war they'll want to bother with air trip reservations and downtown ticket offices. The idea of buying tickets at airports with assistance that the next plane will be along in half an hour or an hour appeals to them.

BLUNCH BOER TOPIC: "Billy Blunch" persists as the favorite topic during lunch hours in executive dining rooms as well as in aircraft factory employee recreation areas. And current topic in Southern California is the mystery of a major factory's new "military secret." During months of construction it was simply a project number behind guarded entrances within the factory. Security-earn workers were under constant FBI checkup. Then, under cover of darkness and under a canvas shroud it was trucked to a major airport. With the doors of the canvas shroud it to the view of thousands driving along the busy road less than 200 feet away. By dark cars jammed the road as the vicinity as it rumbled up and down a runway in late June. A week later, by which time thousands could describe every external detail of it, and guess the rest, it was spotted away to a desert airport for successful test flight. Army offers no explanation.

5 Traffic Control Towers to Continue

Reestablishment of four airport traffic control towers operated by the Civil Aeronautics Administration at the request of the Army and the continuance of a fifth with Naval funds was announced by CAA.

Army agreed to maintain operation of the tower at Akron, is to accommodate traffic incidental to the Navy fighter factory operated by Goodyear.

Location of 4 Towers:—The four towers the CAA will continue to operate with Army funds are at 24. Pease, Maine; Niagara Falls and Yakima, Wash.

Cessation of CAA operation of 24 towers had been announced, and the four to be continued were among that number.

Navy Halts Brewster Corsair Production

Cancellation of order expected in view of announcement on outlook in fighter planes.

Navy action in canceling its contract with Brewster Aeronautical Corp. for production of Corsair fighters came as no surprise, since it had been hinted before and the Navy's announcement last week that it was reducing its fighter production was a forerunner of the Brewster cancellation.

Indisputable between the Navy and Brewster have not always been of the best and a congressional investigation of Brewster production brought out several things that did not improve the situation. It appeared logical to observers in Washington that any Navy reduction in its fighter program would affect Brewster first.

Smallest Producer:—The Navy noted that Brewster is the smallest producer of Corsairs, that it has no additional Navy contract or prospect of any, and further that its production costs are higher than other Chance Vought divisions of United Aircraft or Goodyear Aircraft, both of which produce the Corsair. Thus Brewster was selected to bear the major impact of the curtailment.

Brewster orders were for 3,566 Corsairs and it was understood that by July 1, about half that number will have been completed. In addition, Corsair output at Chance Vought and Goodyear will be somewhat reduced, although not eliminated.

In announcing termination, the Navy said there was no discontinuation with either the management of Kassar or the new management which has just taken office. The Brewster company, however, has an unenviable labor and production record under its Navy contracts before Kassar took over.

Firm Changes Name

Athletic Regon Corp., manufacturer of aircraft fabrics and parachutes, has changed its name to Teetrum, Inc., to avoid confusion arising from the use of the word "regain" in the present name. Announcement of the move came by Ted Dietz, Jr., general manager of the Flightair, Fabrics Division of the company, said that division is producing cotton fabrics and tapes and nylon for parachutes.

Taper A-20 Output

The Douglas contract for manufacture of A-20 Havoc is being tapered off in favor of new type aircraft in demand by the military which will necessitate a readjustment of production schedules.

Initial reaction was that the change would result in the lay-off of a considerable number of employees but it was understood that many workers would be absorbed into new programs and that any effect on employment would strike subcontractors first, particularly new design contractors. The main plants were taken in to keep workers busy until new types are in quantity production.

Aircraft production program changes now being effected and in the effort have caused some confusion among production officials and the military at Washington because of possible worker reaction and slight loss of morale in contract adverse effects.

Nash-Kelvinator Gets New Contracts

A shift of Nash-Kelvinator's war production activities is the making as a result of a new generation for the plant involving large scale production of new four-bladed propellers and an improved 2100 hp two-stage, supercharged aircraft engine which combined will increase the speed and carrying capacity of Navy Corsairs and Million fighters.

George W. Mason, president, and member of the new contracts, involving substantial orders, will intensify the company's current assembly line output of three-bladed Hamilton Standard hydrostatic propellers and two-stage, supercharged Pratt & Whitney 2100 hp engines.

Tradition:—He said the new program would be in the nature of "a rapid but orderly transition toward the output of these advanced and more powerful units."

The engine involved, the R-2600-C, is being produced at Pratt & Whitney's new Kansas City plant (AVIATION NEWS A-34).

Although Nash-Kelvinator is one of the major producers of both aircraft engines and propellers, the new contract marks the first time

the company will be making both propellers and engines for the same planes. Current Nash-Kelvinator built propellers are supplied for 25 different types of aircraft planes.

Airlines Honored

Airlines entrants in the National Safety Council's air transport safety contest who received awards last week for passenger reduction without a fatality during 1943 include:

Eastern Air Lines:—Group A award for loss flying less than 100 million passenger miles.

Transit Airlines:—Group B award for loss flying 10 to 100 million passenger miles.

National Airlines:—Group C award for loss flying less than 25 million passenger miles.

Special certificates were presented by Col. James Steward, president of the contest, at the annual safety award luncheon in New York to

Chicago and Southern, Colonial, Continental, Delta, Hawaiian, Inland, Mid-Continent, National, Northeast, Northwest, Pennsylvania-Continental, Transcontinental & Western Air, United and Western.

Statism of the domestic airlines completed in 1943 safety statistics flew 1,328,000,000 passenger miles without a fatality in 1943.

Special mention was made of the records of Pan American Airways and American Export Airlines, as well as the contract operations of domestic carriers, on which safety records are not made public.

Beitel, Nunneley Resign From CAA

The Civil Aeronautics Board last two of its staff last week when Examiner Albert F. Beitel of the office of trial examiners and Emory T. Nunneley, assistant general counsel, finance legal division, announced their resignations.

Nunneley has been commissioned a lieutenant (j.g.) in the U. S. Naval Reserve and assigned to temporary active duty with the Naval Air Transport Service in Washington.

Examiner Beitel is entering the legal firm of Morris, Kimmelford and Burr, Washington, where he will be engaged in general federal practice.



FLYING JEEP NOW AMBULANCE

Provision for an ambulance of wounded has been added to the duties of the versatile Stinson L-5 Flying Jeep built by Consolidated Vultee's Stinson division. Picture shows standard litter and carrier. The aerial ambulance will be used in evacuation work in jungles and other places difficult to reach.

CAA Forms Urban Planning Unit To Aid in Airfield Development

Organization designed to work with state and local groups on programs suited to individual needs of communities.

By BLAINE STUBBLEFIELD

Favorable opinion on the need for a post-war program of low-cost airfields for full development of private flying is almost unanimous in aviation circles. Latest step in that direction is establishment of an Urban Planning Section in the Civil Aeronautics Administration to work with state and local organizations on plans tailored to the needs of individual localities.

Erie von Haeuseroff and Edgar N. Smith, newly appointed assistants to the Section, will emphasize the requirements of lightplane traffic and wish to integrate it with the existing transportation pattern after study of any given community. They are now working in the Philadelphia area in co-operation with city, county and state authorities.

Whid Duck Set Up—This is the third special airport unit of this kind to be set up by the Administration; airport management and airport building design groups are already functioning.

Charles I. Stanton, CAA Administrator, addressing the Statewide Aviation Forum at Maryland, at

Baltimore recently, said the Section was established in response to a growing demand for advice on airport management problems.

Federal Aid Program—There is not, at this time, any settled overall airport program. The one promulgated by Congress and by CAA before the war has been superseded by the war, with Class 4 and 3 fields (built by CAA for the armed forces, most of them devoted for efficient use by civil aviation in peacetime) running far ahead of the planned program. CAA is still building fields, with funds appropriated by Congress for the purpose. Meanwhile, the Administration is developing a new airport program which it will submit to Congress.

The CAA plan, for which Mr. Stanton is chiefly responsible, is a federal aid program, patterned after the procedure under which this country's highway system was built. Under Stanton's plan, federal funds would be appropriated to the states by CAA under a formula taking into account (1) area of the state, (2) its population, (3) number of registered aircraft in

state, and (4) number of existing certified airports. Each state would have to match a specified percentage of federal funds. Of course, this plan includes fields for scheduled, personal, and other operations. It should be remembered that a great many fields, especially for private planes, will be established by individuals and firms, entirely on their own resources.

3,000 More Needed—Mr. Stanton says the country now has about 3,000 civil ports, most of them of the smaller class. About 900 of them will handle heavy airline operations. He believes the country will need about 3,000 more fields, or 6,000 in all, in the post-war years. This estimate is based on the fact that there are 4,470 communities of 1,000 persons or more. He believes nearly all these communities will want to be accessible by air. Many, of course, are so placed that two or more of them can use the same field.

Dr. Edward P. Warner recently estimated that the typical citizen pilot of the future would not be satisfied unless he is within five miles of an airfield. To bring airport facilities to within five miles of 80 percent of the population of this country, and to within 20 miles of 98 percent, would require that total airfield be increased to about 30,000. He said he was merely stating a fact, not advocating construction of airports at once, immediately after the war, or predicting it as of any particular date.

Airports and Parks—Mr. Stanton recently stated to Aviation News his opinion that there will always be airports, just as there will always be highways. He said that if rotary wing machines came into large production, they too will have to be provided with airports—which may be called parks. There would not be room in urban open spaces or on roads for any extensive ownership of such machines. Furthermore, they would have to be taxed out of the parks into starting areas, which would have to be fairly extensive to be safe.

Continuing his comment about the work of CAA on lightplane ports, Mr. Stanton said two of the most important fields for planning in aviation are the development of suitable streets for the individual owner and the provision of plans for lots to land and take off. He said the natural division of the airport work is for the federal government to undertake the overall

planning, since airports themselves must fit into a national pattern. States and municipalities are best fitted to handle the local details.

Work of UPS—Citing examples of work done by CAA's Urban Planning Section, the administrator said it served as a central source of information on low-cost airport materials. A field in the Fourth Region (P. Worth) needed a moving machine. UPS loaned 35 surplus movers to the Army. Another field wanted a harrow, and CAA turned up one.

Another problem is selecting good airport managers. If political patronage too often guides the selection of field managers, it may be because trained men are scarce. At least three universities—Southern California, Texas, and Oklahoma—are setting up courses in airport management, and other schools have asked CAA to prepare a syllabus for such study. Cost study has been assisted by CAA in drawing up a civil service examination for the position of airport manager.

Career for Service Men—Airfield management and operation is a promising career for men returning service men. CAA will not operate any fields itself, and cannot directly provide jobs.

CAA is assisting airport operators with information on such matters as equitable landing fees, although it has no authority or wish to set rates. Mr. Stanton suggests that CAA would be willing to assist the management of airports to set up systems of accounting systems, by which means they might obtain cost and revenue figures beneficial to both themselves and their customers.

Plane Owners Win Insurance Rate Cut

Aviation insurance rates on both air transport and non-scheduled categories have been adjusted favorably to operators. Partly responsible for this concession is the Civil Aeronautics Board's report on insurance last March, and to testimony along the same lines by Board Member Oswald Ryan before the Senate Judiciary Committee.

The Board in its report found that aviation underwriters' profits, for a period of years up to 1941, were over 20 percent of premiums, that uniform rates were quoted on all risks within the predominate of



VISIBILITY GAUGE:

Sensitive measurement of visibility is made possible by the new instrument shown above, developed by Civil Aeronautics Administration. Photoelectric cell illustrated above gives amount of light reaching it from a source 300 yards away. Results, registered on a meter in the airport control tower, are so direct relation to existing visibility. Photo, taken last winter, has just been released.

the Board of Aviation Underwriters (not including the airlines), and that a large portion of total aviation insurance and reinsurance, which had been pooled with foreign markets, should be brought back to the United States.

Agreements—Adjustment favorable to the airlines, according to informed sources, is in the form of agreements that, if the operators have recorded a specified low accident rate by the end of the insurance year, certain concessions will be made to their credit.

A reduction in public liability and property damage insurance rates on non-scheduled air operations has been announced by all companies, effective April 1. Both new and renewal policies are reflected. Existing hourly operating firm policies are the only ones which may be endorsed as effective on that date. This refers to protection during hours that the airplane is required to be in a scheduled airport, is still used by the airlines but mainly occupied by the Army Air Forces, under a 90-year lease. During the Army's wartime tenure, runways have been lengthened to 8,000 feet and the field has been enlarged to 1,000 acres. Additional land is available for further expansion if necessary.

Ground Coverage—Still coverages have been increased generally by requiring a \$50 deductible

claim on all ground coverage except fire and theft. Participating high plane rates are increased \$1 per hundred for the pleasure classification and 50 cents for commercial classification.

New Okla. City Port Plans Upset by Oil

Site for airfield believed partly over recently discovered petroleum deposits.

Oklahoma City's ambitious planning for a \$25,000,000 post-war airport and a new airport now being tangled up in a set of complications.

A new extension of the Edmond oil field has been discovered and new wells are being drilled in a line which extends toward the new airport site north of the city.

Under Airport 800—Geologists indicate the field probably extends under a portion of the 800 acres already owned by the city, partly for airport development and partly for a water supply reservoir. Additional land adjacent to the city property which was to have been condemned and bought for a total 2,000-acre site, is soaring sky high in valuation.

The picture isn't all black. There is a good chance that oil may be found on the city property, possibly enough to bring sufficient revenue to pay for the airport elsewhere. Already the city has other extensive oil holdings, which have made the community prosperous for the last ten years, and it now derives approximately \$100,000 a year from its own oil property.

But the city needs its projected water reservoir and it may be necessary to protect this water supply by strict action to stop drilling oil wells that could contaminate the supply.

May Get Army Field—Still another important factor enters the picture. With Rogers Field, south of the city and formerly the principal airport, is still used by the airlines but mainly occupied by the Army Air Forces, under a 90-year lease. During the Army's wartime tenure, runways have been lengthened to 8,000 feet and the field has been enlarged to 1,000 acres. Additional land is available for further expansion if necessary.

Should the Army agree to turn back this field to Oklahoma City after the war, the community



Edgar N. Smith



Erie von Haeuseroff

would not have to worry further about the proposed Bethany super-strip. Thus far there have been no commitments, and probably will be none until the war is at a more decisive stage. But observers note the temporary character of any building construction at Wild Rogers Field, compared with the permanent construction at Tinker Field, nearby headquarters of Oklahoma City Area Air Service Command. It is hardly logical, that the Army will maintain two such large air installations in the same area in peacetime, and Tinker Field would be the logical installation for the Army to keep.

Private Flyers' Fields—In the event Wild Rogers Field does revert to the city, the Bethany airport site may turn into a fine private flyers' airport, using the 600 acres now owned by the city, and thus is the way the problem eventually may be solved.

Another case similar to the Oklahoma City story is in litigation as a result of oil discoveries near a Navy air field near Moore, Okla. Seismograph tests showed the dome of the oil field was on Navy property.

The 532-acre field had been purchased for \$46,000 only six months before the discovery of oil, and the Navy had spent approximately \$184,000 on major repairs. A proposal to return the land to the original property owners on payment of the \$100,000 expended by the Navy has been approved by the U. S. Senate and sent to the House.

Air Strip Financing Not Yet Completed

Financing of air terminals and air strips—between 3,000 and 4,000 acres—over the building of which Henry Kissinger plans a profit corporation, has not yet been detailed, but all initial costs would be funded by the eventual operators.

Several means have been suggested for financing the program designed to give permanent employment to more than 4,500,000 persons and create a private plane market large enough to match major operations. The terminals and strips would cost an estimated \$150,000,000. One plan would have one-third of the sum provided by a Reconstruction Finance Corp. loan, another third by small plane manufacturers through pro-

Wild Life Planes

Four surplus planes have been used by the Fish and Wild Life Service to enforce Alaska game laws, and their use has helped make it possible to obtain 113 convictions for violations of game laws in three years in the widespread area for which the service is responsible.

With the three planes—one was destroyed by fire recently—six more have been able to accomplish an enforcement job that couldn't be done in ten years by ground and sea transportation.

permits on planes, half going to the manufacturer and half to the feds, and the last third by large oil companies and other organizations that would benefit from sales outlets at the terminals.

Local Enterprises—Kaiser proposed that the terminals and air strips become local enterprises under supervision of a control operating company.

Plane Sale Stymied By Lack of Policy

Lack of a policy for disposal of surplus planes, now being studied by the Defense Surplus Aircraft Advisory Subcommittee, has stymied sale of planes in the WTS surplus category, and discussions are under way in an effort to clarify the situation.

The RFC, under which surplus aircraft disposal has been placed, is known to have expressed the hope that the Civil Aeronautics Administration's WTS organization would continue to handle sale of the more than 4,000 planes in the category. This would actually be a continuation of the original strip, since the planes were the property of the Defense Plant Corp. of the RFC on loan to the pre-olitary flight training schools.

Knotty Problems—Late last week, no decision had been made, and one source said "it won't be a seven-cornered discussion, or a 13-cornered discussion and it is still going on."

Still another knotty problem confronting those concerned with planes is handling of the ships becoming surplus as contract school operations are shut down. Most of these planes are in the higher

homework category, and no large market is available because of gasoline and maintenance costs. It is generally felt that the majority of these ships will have to be either stored or junked.

Dallas Appropriates \$104,750 for Ports

Funds to be used for purchase of 568-acre site for new field.

Appropriation of \$104,750 as the start in a master plan of airport development has been voted by the Dallas City Council and will be used for the purchase of 568 acres as the site of a new airport for private and non-scheduled flying.

The Dallas councilmen also set new boundary lines for expansion of municipal Love Field, now headquarters of the Fifth Ferrying Group. Air Transport Command land purchases in connection with this expansion are expected to total \$1,300,000.

Redbird Field—The new airport, three miles southwest of the city, is known tentatively as Redbird Field. Present plans call for development of at least 600 acres and acquisition of protecting acreage surrounding the field. Surfaced runways will be from 2,000 to 3,000 feet long and hangers and other facilities will be given flying will be provided. The total development is expected to cost \$1,700,000.

The council voted to purchase Clearview airport, two miles from the Redbird site, if necessary to acquire CAA designation for Redbird. If it is purchased, it will be operated by the city until Redbird is ready; the Clearview site then being sold for residential development or connected to an adjoining park area.

Expansion Program—Love Field expansion plans call for larger expansion plans parallel with new airport, cleared to end of principal landing strips and protective space around the field.

The city also has plans for a "super" airport at Lake Juno, seven miles southwest of the city. Maximum needs are estimated to be 4,488 acres, with land costing at least \$1,500,000. The city has indicated only 500 acres will be bought at Lake Juno before the end of the war to protect a CAA designation already obtained for the site. The 500 acres probably will be developed only for private flying until the post-war airfield needs become clearer.



STANDARD GUNNER When naval shipboarders perfect their aim for shooting or shooting down the enemy, performance is vital in these modern military powered planes designed for specialized training.



PESCO "PRESSURE-LOADED" HYDRAULIC PUMP Heart of the hydraulic system on vast numbers of American planes, this PESCO pump was engineered in response to urgent aircraft needs. Among its many exclusive features are "pressure-loaded" loadings which minimize gear clearance and insure maximum volumetric efficiency regardless of thermal variations or wear. Extremely compact and lightweight, some models deliver pressures up to 3,000 p.s.i. PESCO Products Co., 11610 Euclid Ave., Cleveland 6, O. (Division Borg-Warner)

In Aircraft Hydraulics, Fuel Pumps, Air Pumps, Related Accessories



PERFORMANCE POINTS TO PESCO FIRST



A Kellert in operation over with a line of cars parked, during the war years.

Pioneer... Blazing Air Trails

PIONEERING is an American tradition. Every step in America's advance has been made because pioneer spirits first endured hardships to make new paths—paths that encouraged others to take up the journey.

The same pioneer spirit is just one of the blaze-marks in the fifty-year road marked by rotary wing pioneers. The aircraft flying close to tree tops was an early model, direct-rotor Kellert, demonstrating its ability to hover in sight, and to take off or land on any open spot of ground. Most of the Kellert pioneering was during the most severe disposition

the U. S. and the world had ever experienced. It required faith to carry on with confidence in the goal ahead.

Today, Kellert's expanding staff of engineers, backed by this fifty-year of clearing new paths, looks forward to Peace—when developments in rotary wing aircraft will have applications to serve in the peacetime and wartime of cross-country electric lines and oil pipe lines, in spraying and dusting agricultural crops, in reaching, forestry fire pump-and-spray more ways. Kellert Aircraft Corporation, Upper Darby (Philadelphia), Pennsylvania.



Right: post-war U.S.A.F. Kellert glider off from in front of the Operations Hospital, Wiesbaden, Germany.

THE AIR WAR

COMMENTARY

Luftwaffe Ready for Last Stand With New and Improved Designs

Germany's first-line air strength maintained at peak, despite constant bombing of plane plants, Arnold points out; however, General says Nazi reserve power undoubtedly has been depleted by attrition bombings.

General Arnold, at his recent press conference, surprised most of his listeners when he stated the first-line strength of the Luftwaffe has been well maintained, that it probably is nearly as high as it has ever been. This despite the undeniable evidence supplied by photographic reconnaissance, which has revealed very serious damage to a number of German aircraft factories.

Most of these have been heavily struck from two or three to nearly a dozen times since the all-out drive against them which started during the last week of February. Among factories in which production seems to have ceased are the Messerschmitt 109 plants in Regensburg and the main Junkers assembly plants for JU-88/100 at Bernburg.

Stripped of Reserves—General Arnold further pointed out, however, that this first-line strength may be only a shell, as the constant attrition of air bases and the destruction of production fac-

ilities has depleted the Luftwaffe's reserves to a dangerous extent. The German Air Force was probably at its peak during 1942 when production of all types may have been as high as 2,500 per month. At that time newly constructed or reconstructed aircraft were delivered from the factories in depths behind the lines and flown out to squadrons as required. Since the first of this year, however, fighters and bombers have been delivered direct to squadrons, and since February losses in the air and on the ground have been greater than monthly production. During April and May, the effect of this has been a very spotty fighter defense.

Highly strategic targets attacked on clear weather (such as the group of synthetic oil factories struck during the second week of May) are savagely defended, and our strikes bear eloquent testimony to the quality of both the German aircraft and pilots opposing them. Many of the main flyers,

Veteran SBD's

SBD's are still in use in the fleet even though they are considered outdated because the Navy has not been able to obtain enough SB2C's Curtiss P-40's—to replace them. Vice Admiral J. S. McCain said Senate confirmation in hearings on the 1945 appropriations.

The question of outdated planes came up three times during the hearings, but McCain told the subcommittee members that replacement of the SBD-Douglas Corsairs—would take more than a year. Continued for the SBD's is carrying in July, he said, and Douglas is engineering a new ship to follow—the DTD.

In addition to Curtiss-Corsons, the SBD's are coming into production at two other plants, and will replace SBD's as soon as possible.

by the way, still think they are going to win the war. In the light of the imminent invasion of Europe, however, the Luftwaffe is faced with a serious dilemma. Should it defend the war industry of the Reich, shrinking under the devastating air assaults by night and day of the RAF-AAF in England and the 15th Air Force in Italy? Or should it husband its remaining strength for the whirlwind of air destruction which will be launched by the Tactical Air Forces during the invasion, anticipated for a time no doubt by the Strategic Air Forces' hammering of communications in the rear?

Battle of Britain in a Renewal—Our air leaders, on the other hand, have questions of their own to an-



GERMANY'S 'POWERED GLIDER'

The ME-323 transport, one of the Nazis' unconventional craft, has six French Gnome-Rhone 14 M. radial engines, each 500 hp. Disposable load of five

aircraft, pictured previously in Aviation News, is about 22,000 pounds and it carries approximately 126 soldiers.

KELLETT

OLDEST ROTARY WING AIRCRAFT MANUFACTURING COMPANY



DOWNED MESSERSCHMITT:

This Messerschmitt bomber from German factories is generously grounded in the European theater of operations. A U.S. Navy cameraman made the pictures while our aviators checked over details of the enemy plane.

its, and score them this. Exactly what will be the character of the air opposition we must meet on D-day and thereafter?

The Germans will have the strategic advantage of being on the defense and the tactical advantage of mobility (for which the Luftwaffe has always been noted) and recovery of many pilots landing on their own soil. Similar advantages, plus the superior quality of the Hurricane and Spitfire (especially in firepower and speed) over the current German fighters (ME-109, ME-110 and Heinkel 111) brought victory to the Royal Air Force. What will the American Mustang, Thunderbolt and Lightning, and the British Typhoon, latest Spitfire and now Tempest be up against when the stress falls to a finish phase?

Expected Types—New variants of the FW-190 are now in the air. Among them is one fitted with the powerful DB-603 inverted V-engine (1,700 hp.), instead of the BMW-801 radial. Another (which may turn out to be the FW-240 or an advanced 190 series) is powered by the 16-cylinder ME-100. The late G-series is powered by the DB-603, and there are British reports of an ME-108H with a turbo-supercharged engine which

has improved operational altitude and service ceiling. An ME-269 was reported as under development more than two years ago and limited numbers of this aircraft (said to have sealed orders for high altitude operations) may now be in service. All these new fighters are heavily armed with 13 mm. machine guns and 20 mm. and 30 mm. rapid-firing cannons, and all are in the 400 mph. class.

New Designs—A brand new fighter-bomber reported in action in the Arctic AN-248 two-seater, powered by two DB-603's. Speed is over 340 mph and bench load is 2,200 pounds. The new Junkers JU-288 has roughly similar characteristics, and is sufficiently different from the original -58 as to be classed as a new airplane. The ME-410 is still fairly new, frequently used in the raids over England. The Dornier 317 has come up with a short-wing, heavily armed, specially equipped night fighter version. Heinkel has a new fighter-drive bomber which may be the "secret plane" reported by the German Transocean Agency a few days ago in London. At least one or two jet-propelled interceptors are reported to be in production and may be in limited service, said to be in the 500 mph class, with extremely fast climb. The Swiss have their designs in the 1938-41 period in the interest of quantity production, research slowed down, and this impressive crop of newcomers is at least a year too late.

Better Bombers — Despite the great emphasis on fighters during the past 15 or 16 months, improved bombers are now reported in service. The FW-230, a long-range patrol bomber used as a spotter for U-boat wolf-packs, is being gradually replaced by the more powerful Heinkel 117, fitted with two Daimler-Benz 810 engines (doubled 605's, making the 117 a 4-engine bomber for power, but with the efficiency of a twin-engine job). This big bomber, long under development and with more legs than usual, carries a seven-man crew and up to four tons of bombs. This aircraft employs the He-260 glider bombs against shipping.

Other 4-engine bombers are in the mill, but probably will not appear in time. The JU-188 is a fast bomber version of the -58, powered with two BMW-801 radials instead of the Junkers 514 of the older ship. These bombers, plus the above fighter-bombers and escorted by the Luftwaffe's best fighters, will hammer ports, shipping, landings in a furious effort to break up or delay the invasion, and clearing them substantially out of the skies over Western Europe will be one of the principal objectives of our Tactical Air Force.

Frank Douglas—Scout of the synchrode types which may be concerned include the Heinkel 4 Voer BV-141 asymmetrical or off-side reconnaissance plane (BMW 1,600 hp. engine, some model possibly jet-propelled), the Heinkel Wing, consisting of two Heinkel 111s joined together as a huge glider box with a 520 engine (BMW radial) added, and the sleek ME-323 powered glider, with six Gross-Rohrer 893 hp. engines, of 146 feet, capable of carrying 135 or more armed troops. These are the Luftwaffe's "odd three" and there may be more. Time will tell.

NAVIGATOR

Carriers Renamed

Navy's escort carriers are being renamed, and new carriers will be christened with names of battles and actions, most of them from the current war. Most of the carriers, hereabouts given the names of boys, have been renamed for Pacific battles, Guadalcanal, Admiralty Islands, Bougainville, Makin, Ror, Gilbert Islands, Cape Gloucester, Vella Gulf and Siboney.



ONE PLACE WHERE VIBRATION MUST BE BLOCKED OUT

A vital mission—protection lives—a half-billion dollar bomber—all are dependent upon the continued and precise functioning of a group of flight instruments. However, vibration from high powered engines may seriously damage or shorten the life of these costly instruments, and they should be carefully shock mounted for protection.

The Robinson principle of vibration control, proven in aircraft engine mountings, has recently been applied to this problem of instrument panel suspension. A Robinson engineered suspension causes freedom from fatigue failures, with maximum useful life. Our engineers are prepared to help you with your vibration problem in applying our principle, we design, test, and build complete experimental suspensions ready for installation and flight-checking. Our manufacturing facilities are available for production in quantities desired.



ROBINSON AVIATION, INC.

710 Fifth Avenue, New York 19, N Y

Back Up These Men—Buy WAR BONDS



"CAN FURNISH THE Best of References"...

TODAY—Operating through all kinds of weather, with little or no time-out for maintenance, Curtiss Commandos are lugging war's cargo . . . men, weapons, fuel, jeeps, trucks, engines or anything our armed forces must have in a hurry . . . at speeds in excess of 200 mph, and loads of 10 tons or more. It's their job to see that "too little and too late" never applies again.

TOMORROW—When the time comes for you to consider transport equipment to meet your passenger and cargo requirements, the Curtiss Commando will offer as references its impressive war record in terms of load capacity, speed and economy of operation. LOOK TO THE SKY, AMERICA! Curtiss-Wright Corporation, Airplane Division, Buffalo, St. Louis, Columbia, Louisville.



PERSONNEL

W. Ward Jackson has returned to the Delaware Collision Corp., to take charge of plane services in the Washington office.



Washington, he will serve as a consulting team in the Project Analysis Branch, the Tax Administration Branch, and the Available Machinery Branch of the Facilities Bureau of the Project Emergency division of WPA.

W. J. Van Dusen, director of public relations for Pan-American Airways, is on leave of absence as temporary duty in the Navy as a technical consultant. He has arrived in London where he will serve as public relations aide to Capt. Leherd P. Levine, formerly Navy public relations chief in Washington.

Conrad Roland G. Moore, formerly assistant division manager of Consolidated Vultee Aircraft Corp.'s East North division, has been appointed manager since the resignation of George J. Newman. Moore has been with Consolidated since retirement from the U. S. Navy, before which he was inspector of naval aircraft.

Henry Park, formerly in charge of all engineering for American Tool Engineers, has taken charge of all outside engineering and contract work for LaSalle Designing Co., in New York City. LaSalle does designing for twelve of the largest aircraft firms in the country.

Albert G. Thomas, Pan-American Airways maintenance training supervisor of the clipper base at La Guardia Field, has been awarded a Silvermaster's Award.



Thomas was an engineer, overhaul specialist on Wright Whirlwind and Pratt & Whitney Whirlwinds. He has trained all employees engaged in servicing Clippers at La Guardia Field's airplane base and overhaul.

Rose Adelson Tansley, J. Kessler USN, (retired), has been succeeded by the Secretary of the Navy for his services in the Army and Navy Munitions Board and in the Office of Procurement and Material, Navy.

W. B. "Bill" Meese, formerly manager of All American Aviation, Inc.'s, military cargo division, has replaced E. B. Soupe as operations manager at Pittsburgh. Soupe has resigned. Replacing Moore as operations manager at Harburg is Capt. T. Fosse Thomas, former annual pickup pilot.

Charles Withers has been appointed to the general manager's executive staff of Ranger Aircraft Engines division of Fairchild Engine and Airplane Corp.



He is a former president and vice-president of Sperry Gyroscope Co., Inc., executive vice-president and consultant of United Aircraft Products, Inc., and vice-president of the



TEN YEARS ON JOB:

Col. Turner A. Swei, Jr., deputy chief of staff for Materiel Command at Wright Field who has made numerous contributions toward aviation advancement in the last ten years, has served successively as director of the propeller laboratory, director of wind tunnel laboratory, assistant chief of engineering section, chief of experimental aircraft projects and technical executive.

Gray Manufacturing Corp. Withers is a retired Naval officer.



GEN. BRADLEY GETS DSM:

Maj. Gen. Pallott Bradley, consultant and assistant to the president of Sperry Gyroscope Co., and formerly AAF inspector, was awarded the Distinguished Service Medal for his work in increasing the air strength of Soviet Russia at a critical time and in coordinating actions between the Eighth Air Force in England and the Russians.



HAMILTON WINS SAFETY AWARD

William A. Stewart, (left), general plant manager of Hamilton Standard Propellers, congratulates (left to right) Lester S. Johnson, chairman of plant safety committee, Herbert Green, safety engineer of Liberty Mutual Insurance Co., and Paul Azzogno, Hamilton general superintendent. The insurance companies presented Hamilton with a mounted certificate of merit for its outstanding wartime safety record. The company's frequency has fallen to 7.3 lost-time accidents per million man-hours.

Donald G. Fitzgerald has been elected secretary and treasurer of the International Aviation Corp., producers of visual manuals. He was formerly vice-president and acting secretary-treasurer of the company. He was associated with Chase National Bank for many years.



Eng. Gen. Robert L. Darg, (center), director of Warner Corp. Public Relations Division at headquarters in Washington, has been ordered to temporary duty to make inspections of public relations activities overseas.

Charles L. Haldenbeck has joined United States Plywood Corp. as public manager. Previously he was traffic manager of Barber Asphalt Co.

H. P. Gordon, assistant deputy minister, Department of National Defense



CLIPPER CLUB MEMBERSHIP DRIVE 100%

The Clipper Club of Pan American Airways was supported 100 percent in a recent membership drive. Left to right, seated: Richard C. Long, regional director for the United Kingdom, Eire and Portugal; Harold E. Green, division operations manager; Marjorie Brander; A. E. La Porte, ship flight officer; John C. Ward, manager of industrial relations; and standing: John R. Barnes, Jr., public relations officer; Robert C. Hallett, assistant traffic manager; Charles J. Cole, special assistant to the division manager; Wilson T. Jerbo, Jr., division communications superintendent; Albert P. Eliech, division engineer; Clarence W. Shurmer, division economist; Edward W. McPhee, assistant division manager at La Guardia Field; Jesse M. Van Loe, special assistant to the division manager; and P. C. Knapp, division operations superintendent.

for Air, Ottawa, Canada, has been named deputy assistant, following the resignation of deputy assistant R. L. de Gooch.

TELLING THE WORLD

Robert S. Pease, manager of publicity and broadcasts for General Electric Co. since 1940 and chairman of the company's general advertising committee, has been elected a vice-president by the board of directors.

Bendix Aviation Corp. has appointed MacMorris, John and Adams, Inc., of Detroit, as the corporation's advertising counsel. The account will be under the supervision of Harry Hargrave, vice-president of the agency. The Bendix Educational newspaper strip feature, "Captain Rex Day," will continue to be handled by Lewson and Mitchell.

Louise F. Griffin has joined Pan American Airways traffic advertisement department as advertising production manager, succeeding Kenneth C. Quaker. Griffin has been appointed acting advertising manager. Griffin has operated in the advertising phase of proper arts agencies and has had ten years' experience with advertising agencies, three with Murray Brown Associates and seven with Street and Smith and Eschay.

A well known figure in air transport circles, I. B. "Buck" Randall, has joined the Victory Builders Division of Bendix Aviation Corporation as vice-president and sales manager. As past president of the Advertising Club of New York and past president of the Radio Engineers Club of New York, he was instrumental in the erection of the Airline Terminal as well as president of the U. S. Aviation Club at the New York World's Fair. Randall has been connected with TWA, General Foods and Blackman Advertising Agency.

Leonard Brown, Products Co., Garden Grove, Calif., manufacturers of precision tools and aircraft production equipment, have placed their account with Davis and Beavers, Los Angeles, for media, business publications and direct mail. Ford C. McMillan is account executive.

General Electric Co. has released the first series of a new kind of parts publication. Five of the publications cover instruments for radio and other communication equipment and two cover instruments for naval aircraft.

At Ferret Review, published by Aeronautical Institute of Canada at Toronto, will appear title in American Review: Harold Day, of New York, has been named U. S. representative.

Robinson and Reiman, New York, have taken over the Bellows Aircraft Corp. account.



WHEN CLIFFORD SUBTRACTS
COPPER AND ADDS ALUMINUM

WEIGHT
SAVING = $\frac{2}{3}X$

To save only 60 pounds of weight, heavy U. S. bombers now fly without camouflage paint. No wonder that U. S. Army Air Force engineers jumped at the chance to save approximately 120 more pounds in one of their famous fighters.

This chance came when Clifford discovered the long-sought method of brazing thin-walled aluminum tubes. Out came heavy-weight, self-actuated copper oil coolers and coolant radiators (with a weight of X) . . . in went Clifford All-aluminum Feather-Weights (with a weight of only $\frac{1}{3}X$) . . . without any design change. A second fighter is now taking the Clifford weight-

reduction treatment . . . results about 800 pounds less weight.

Victory over weight isn't the only gain when Clifford subtracts copper and adds aluminum. Greater resistance to heat and pressure is also obtained, for aluminum alloy bearing material stands 2 to 3 times higher temperatures and several times greater pressure than soft solder . . . and the aluminum alloy is heat-treatable whereas copper gradually anneals and weakens under continued high temperatures.

CLIFFORD MANUFACTURING CO.
South Boston 27, Mass.

CLIFFORD
FeatherWeight

OIL COOLERS AND
COOLANT RADIATORS

Save $\frac{2}{3}$ The Weight
... same size and shape



... INDUSTRY'S FIRST HYDRAULICALLY-FORMED BELLOWS

NOTE TO SERVICE MEN AND WOMEN Beechcrafters are Grand People

Their slogan is "Let's Kill 'Em with Production," and our production lines have met schedules accurately for more than two years . . . They put not ten but more than twenty percent of their total pay into War Bonds . . . They have made heavy contributions of cash and effort to organizations and projects of benefit to Service men and women . . . Thousands of them have volunteered or cheerfully accepted induction into the Armed Services.

At a recent "Open House" showing of

the Beech plants to Beechcrafters and their friends, more than 62,000 people made the inspection tour in one day. Their respect and their high appreciation of the company due to others eliminated even the smallest infraction of the rules. The plants were as clean and free of litter at the end of the day as at the beginning.

They are behind you with an eager spirit to do anything that will bring Victory even a minute sooner. They are your kind of folks.

Beech Aircraft
CORPORATION
BEECHCRAFTERS ARE DOING THEIR PART
WORTHINGTON, KENTUCKY

Beechcrafters and Their Families
at the Open House



AIRCRAFT PRODUCTION

More Plane Schedule Revisions Seen As Tactical Needs Change

Unit production for May expected to be around 8,500 mark but poundage probably will increase, despite falling off in output about middle of month.

By SCOTT HERSHLEY

There are increasing signs that there will be much further reduction in the aircraft manufacturing program before the end of the year in view of changing requirements and the fact that the enemy, in a sense, writes our production schedules.

Unit output, now between 8,000 and 9,000 airplanes a month, may drop somewhat, but the poundage production will continue to increase, at least for some time, with the output of heavier planes in virtually all classes.

May Estimates—Preliminary estimates on May production put it at about 8,600 units, somewhat above last month's 8,340 although there was a falling off in mid-month which must be overcome to meet May schedule.

The expenses of war are bound to reflect in the industry's output. As General Arnold pointed out recently, our losses have not been light, but at the same time they have not been so high as expected in either the European or Pacific theaters. This means that production of replacements will not be on so tight a schedule as under less favorable conditions. There are even possibilities that some plants may be able to cut production sharply on some airplane types.

Certain Types Eliminated—While the Army Air Force says it has no plans for a reduction of combat planes or units of its organization, there undoubtedly will be an elimination of certain types found not so effective in combat as other types, together with quantity production of new airplanes now, which will change schedules.

General Arnold recently commented on the reduction in the number of types of fighter planes from eight or nine to four or five

and added that he would like to see the number further reduced to perhaps two as an ideal situation, which may not be possible for the time being. He did not elaborate as to which two he would choose, nor did he indicate that they would be existing models.

Other Models Included—It may be surmised that, if the AAF is working to reduce the number of types of fighter planes, the same situation applies to other combat types.

In any change downward in aircraft production, it should be remembered that Army and Navy schedules are made in advance and that revisions probably reflect previous plans rather than immediate developments. The recent order by the Navy, for example, reducing the over-all production of fighter planes, in recent instances

means merely the elimination of over-quota built and accepted. The Navy reduction will enable increased air strength to stay within the maximum over-all goal of Navy planes fixed last year as the force necessary to accomplish the Navy's war tasks. The same situation, undoubtedly applies in any changes made in the Army program.

Other Changes Under Way—Not only from the Army, but from other high government officials have come indications recently that changes in the production program are in the offing. This does not mean there will be cutbacks overnight but it does mean that the completion of the program, as outlined some months ago, will undergo a change.

The end of the European phase of the war, of course, is bound to bring production changes. As General Arnold noted, the characteristics of the airplanes to be used and the operations to be conducted in the Pacific, are different. This involves not only airplanes, but training, as well as the great task of moving a huge air force into that theater. General Arnold called the task difficult, but not insurmountable.

General Arnold pointed out that regardless of changes, the air forces need not only combat units as at present, fully equipped, but not together to the reserves, modification centers, depots, fields and back to the aircraft plants. All indications are now that this sys-



CONVAIR PACKAGES AIRPLANE SPARES

Spares packaged for overseas shipment at Convair's plant in Fort Worth. Dimensions range from the smallest to the largest and above is an example of the latter, a package near bottom section being packed and crated for shipment.

ties, built on the manufacturing industry, can be maintained to meet all needs and to maintain our air superiority.

North Output Hit—On the other hand, General Arnold said the industry is not so large that Germany cannot maintain its air force, that German production is about one-fourth of what was planned for this year and that the German air force confronting us in Europe is strong but that it is a shell without replacements. He said that every time they rise to meet us over Europe they suffer irreparable losses, contrary to our own position.

Production officials say there are no shortages in aircraft production at the moment, although manpower continues to plague manufacturers in some areas. Despite the recent unemployment created by new Selective Service regulations, manpower officials believe the problem can be met. Model disagreements in some plants have necessitated separations of some employees, who might be needed later, but they cannot be held as if charges of labor hoarding are to be avoided.

Some manufacturers are reporting transportation difficulties again as a production factor, as over-age automobiles and buses are laid up for necessary repairs.



DOUGLAS WINS ARMY-NAVY 'E'

In a ceremony on the flight ramp at Clasper Field, where the first mass round the world flight in Douglas planes returned, Army officers took off in 1934, the "E" flag was raised before some 32,830 Douglas Army-Navy officers. Present, in addition to high ranking Army and Navy officials, were Donald Douglas, president of the company, his father, William E. Douglas, and his son, Donald W. Douglas, Jr., director of the company's experimental flight division.

NACA Puts Altitude Tunnel in Operation

New equipment is designed for testing planes over 3,000 hp, at simulated height up to 50,000 ft.

A valuable unit has been added to the nation's aeronautical research facilities with start-up of operations of the altitude wind tunnel at the NACA Aircraft Research Engine Laboratory in Cleveland, which was rushed to completion for secret investigation of new military power plants, including jet propulsion systems.

The tunnel is said to be the first of its kind for investigating under altitude conditions aircraft power plants as installed in airplanes, and is most complete in equipment for getting bugs out of engine power plants designed for high altitude operations.

Diameter 30 Feet—The diameter of the tunnel test section was fixed at 30 feet by propeller requirements for engines of 3,000 hp or greater. The altitude at which it was desired to conduct tests influenced the determination of tunnel capacity. It is designed to simulate the sub-zero temperatures encountered at 30,000 feet and is strong enough to withstand the pressures at 50,000 feet.

Total power required by the tunnel to investigate a 3,000 hp aircraft engine at 30,000 feet and 900 mph, is supposed to be in excess of 90,000 hp. Because power plants are operated in the tunnel, provision was made for cooling the air in the tunnel and disposing of the engine exhaust gas, requiring installations including cooling radiators, intake-air duct and exhaust air scoop that are not normally parts of an aerodynamic wind tunnel.

Alloy Steel Used—The tunnel is of steel construction, using an alloy especially adapted to temperature changes and is supported through steel rollers on concrete piers in such a manner as to provide for movement in any direction in general expansion and contraction of the steel shell. Heat losses are minimized by an insulating layer of glass wool, which in turn has a steel cover. An 18,000 hp electrical motor drives the 31-foot diameter, 12-bladed propeller on an extension shaft from outside the tunnel shell.

One of the chief purposes of the tunnel, as outlined by NACA, is to give time in clearing for production in general expansion and contraction to operate at the highest attainable altitude. Nothing, of course, takes the place of final flight tests. The NACA tunnel, however, can be used to study power plant performance at speeds and altitudes in excess of those attainable by the "flying laboratory."

Aircraft Contracts Top \$2 Billion

A total of \$52,132,345,660 in aircraft supply contracts was reported in process by the War Production Board through March.

As in previous reports, California led the list with \$9,397,915,000, Michigan second with \$6,328,137,000 and New York third with \$5,671,468,000.

Parts and Accessories—The aircraft category includes contracts for airframes, airplane engines, propellers and other parts and certain related equipment such as parachutes and aircraft pistols.

In addition to the top three states, others with large totals include: Indiana \$3,841,840,000; Kansas \$2,378,330,000; Texas \$1,852,360,000; Maryland \$1,940,004,000; Washington \$1,811,394,000; Illinois \$1,752,713,000 and Oklahoma \$1,742,897,000.



The Birdmen's Perch



LOOSE TALK IS STILL COSTING LIVES. SHUT UP!

LET'S GET DOWN TO EARTH...

Most of you mechanics, machinists, CA People, etc. are doing work that really matters.

And practically all of you are getting into and out of that work. So why don't you join Gulf's "Anti-Breakdown" Club, today?

The way you do this is to call your Gulf dealer and make an appointment to get Gulf's Protective Maintenance Plan... 13 services in all! This group of services includes lubrication, oil changes, tune-up (or inspection for necessary), air-filter cleaning, spark-plug cleaning, valve-lift flushing.



IF YOU DRIVE TO WORK, READ THIS...

The Gulf Protective Maintenance Plan was conceived by automotive experts. Gulf's service people are experienced mechanics in our most experienced service bays. And we're telling you about it because Perch needs us doing some of our most important work.

TECHNICAL DEVELOPMENTS

Here's what our company did. They figured out a way to load your aluminum oil sump. Then they loaded your aluminum cooling fins (lightweight and excellent conductors of heat) and used (oil strength) cylinders. And now this particular company's 12-cylinder engine produces more horsepower per pound of weight than any comparable engine.

That's what makes our company different. They figured out a way to load the load between a lubricating oil and those parts of a machine which are critical and fragile. Their method, which they called the "Rubber Process," makes it possible to get more of those carbon-makers and sledge runners out of a lubricant. And now, this company's oil produces more lubrication per pound of oil than other lubricants.

That's better company, Gulf. The oil Gulf sells.

AND IF YOU WALK TO WORK...



SPEND YOUR CAREFREE ON WALK-BUY GULF!

Gulf Oil Corporation and Gulf Refining Company...makers of



GULF AVIATION PRODUCTS

GULF IS AMMUNITION—USE IT WISELY



Air Power Through Piston Rings



More and more, the leading makers of aircraft motors are using McQuay-Norris precision parts. Our 34 years' experience in precision manufacture, our long and intensive work in metallurgy, heat treating, clinical research and laboratory experiment, enable us to turn out the sturdy, dependable parts demanded by modern aviation. Your inquiries are invited.



PRECISION WORKERS IN IRON, STEEL, ALUMINUM, BRONZE, MAGNESIUM



McQUAY-NORRIS MFG. CO. (AIRCRAFT DIVISION), ST. LOUIS, U.S.A.

CANADIAN PLANT, TORONTO, ONTARIO

PARTS FOR AIRCRAFT ENGINES

Piston Rings
Oil Sealing Rings
Supercharger Rings
Crankshaft Parts
Machine Aluminum
Pistons
Piston Pins
Counterweight Check Pins
Machine Magnesium Parts
Cylinder Hold Down Nuts
Hardened and Ground Parts

PARTS FOR PROPELLER ASSEMBLY

Machine Magnesium Parts
Piston Rings

EQUIPMENT FOR MAINTENANCE OF AIRCRAFT

Pistons for Oxygen
Compressor
Piston Rings for Oxygen
Compressor
Pins for Oxygen Compressor
Pistons for Air Compressor
Pins for Air Compressor
Piston Rings for Air
Compressor

LANDING GEAR PARTS

Machine Aluminum
Pistons
Piston Rings
Hardened and Ground Parts

SAE Holds Parley On Diesel Fuels

McClulloch Engineering Corp. expert urges coordinated development of engines and superchargers.

Parallel development in a coordinated program of both diesel engines and their superchargers to produce smaller, lighter, more powerful units is proposed by E. W. Waisel, chief of McClulloch Engineering Corp., Milwaukee.

He told the SAE National Diesel-Fuels and Lubricants Meeting in Chicago that the time has come for integrating superchargers with high-speed diesels to take full advantage of their potentialities for making possible more compact and lighter engines.

Efficiency—High supercharger efficiency, he contended, is of greater importance in the high speed engine than in the low speed diesel and the future need as he sees it will be for superchargers of high performance at larger pressure ratios.

Arch L. Fowler, of Petroleum Publishing Co., Tulsa, told the meeting that adequate post-war supplies of diesel fuels at reasonable prices may be expected if diesel engine builders and users will avoid specifications which unnecessarily reduce available volume, increase prices and cause economic waste.

Fuels—He said that fuels of very different quality levels can be produced by American refiners, but specifications for volumetric value, distillation range, stability, ignition quality, pour point, flash point, sulfur content, and viscosity must be sufficiently broad to prevent needless limiting of the types of fuel supplied to customers.

Fowler outlined several incorrectly conceived diesel fuel octane numbers with gasoline octane numbers, explaining that technicians the agreed octane numbers are no index of fuel performance as regards power output and consumption.

Reports on Army Survey—Tests under Army service conditions have demonstrated that 38 octane number diesel fuels may be used satisfactorily in normal temperatures and altitudes according to a report made to the meeting by L. W. Griffith, of Shell Oil Co., and R. G. Williams, Caterpillar Tractor Co. They said the fuels previously had been considered in-

desirable because of inferior ignition qualities, but that tests with five different grades of engines in the field, laboratory, and cold rooms had shown little if any power loss, no increase in fuel consumption, and no particularly damaging change in engine performance.

Market Analysts Favor 8 Aircrafts

Market specialists consider eight major aircraft companies good post-war possibilities. However, a severe struggle for business is inevitable, a survey distributed recently by Merrill Lynch, Pierce, Fenner & Borne states. However, it adds that manufacturers successful in designing improved military models may obtain sufficient government business for satisfactory earnings.

Rank Substantial—Companies favored are Beech, Boeing, Consolidated Vultee, Douglas, Grumman, Lockheed, Republic and United Aircraft. The last two are termed the relatively most attractive.

The actual effect of the investment house survey points out that price risk remains substantial in aircraft shares, but that it is less than it was in early stages of military expansion, when share prices were materially higher.

C-W List Payments To Retirement Fund

Salaries, earnings and fees shown in annual financial report to SEC.

Curious-Wright Corp. reports in its 1940 financial statement to the Securities and Exchange Commission that payments of \$41,534 were made into a retirement plan for Guy W. Vaughan, president, last year, \$13,109 for S. S. Wright, vice-president, \$14,371 for M. B. Gordon, vice-president, \$68,672 for 17 directors and officers, \$32,148 for 32 officers and \$7,322 for one division general manager.

Vaughan received \$394,105 salary during 1940, according to the report, including \$33,335 as president of Wright Aeronautical Corp., a subsidiary Wright was paid \$51,125, which includes an unreported amount as general manager of Curtiss Aeroplane division. Gordon got \$61,885, including \$69,965 as vice-president and general manager of Wright Aeronautical Corp.

Wright Aere Experts—The annual report of Wright Aeronautical Corp. showed \$108,536 paid to Roland Clifton, engineer and patent lawyer. Company also paid into a retirement plan for Roland Clifton \$4,846. M. B. Gordon



LOCKHEED GETS ARMY-NAVY "E"

Robert E. Gross, president of Lockheed, is shown addressing workers in connection with the "E" award to the Lockheed company, coincident with the completion of the 25,000th Lockheed airplane. Left to right, seated, are Lt. Col. Howard Adams, Capt. J. E. Webb, Maj. Howard Adams and Brig. Gen. David F. Stone.



AIRCRAFT WELDING RESEARCH COMMITTEE:

This group, headed by P. H. Merriam, of Glenn L. Merriam Co., is sponsored by the American Welding Society, American Institute of Electrical Engineers. They were photographed at their recent meeting at the aircraft departments of the floor plant of the Armstrong Cork Co., Lancaster, Pa.

\$12,971, G. W. Vaughan, \$15,852.

The report showed Curtiss-Wright paid out the following sums to attorneys, accountants, engineers, and for royalties:

Attorneys:—Spence, Winkels, Walker, Hartschels & Angell, New York, \$287,427; F. A. Delapens, Paterson, N. J., \$21,828; Ward, Crosby & Neal, New York, \$31,365; Davis, Peck, Wardwell, Steinhardt & Krenell, New York, \$75,000; Hart G. Weber, Buffalo, \$23,450. The three first named firms' compensation includes remuneration as attorneys for Wright Aeronautical Corp.

Boysalides:—W. B. Turnbull, New Brunswick, Canada, received royalties of \$5,602,963, and the estate of Charles Wood Hall, Bristol, Pa., \$626,942.

Accountants:—Lybrand, Bass, Ross, & Montgomery, New York, received \$275,046, including work done for Wright Aeronautical Corp. Statements of both companies will be filed later by amendment.

Goodyear Remodels Aircraft Brake

An improvement in design of the Goodyear single-disk airplane brake for planes heavier than those previously equipped with it has been announced by C. O. Bell, manager of the company's airplane division.

Bell said that, besides a saving in weight, the brake also has lower maintenance and replacement costs. The single-disk type, developed by Goodyear, was introduced to the light aircraft industry just before Pearl Harbor. Goodyear brakes of multiple-disk construction are now being used

on planes of all weights and classes, but the single-disk type in the past has been restricted to special purpose light planes.

Cooled by Airstream:—Increased capacity is claimed for the single-disk brake because of its more heat dissipation. The disk is flush with the inboard edge of the wheel rim and therefore is subject to the full cooling effect of the airstream. Since a smaller section of the disk is under braking pressure from the shoes, a correspondingly larger surface area is available for cooling.

Martin Shuffles Instrument Research

Glenn L. Martin Co. has transferred the production instrument section of the instrument laboratory from the engineering department to the inspection department.

It was explained that the instrument laboratory originally was organized in the engineering department as a research and development group to develop new instruments and check production installations, both for new airplanes and for flight test engineering. In recent years, however, production instrumentation has grown to a point at Martin's where it became the dominating activity of the instrument laboratory.

Staff Transferred:—Involved in the transfer are Gordon W. Bell, chief of instrument laboratory under engineering who will continue in the same post under inspection and his entire staff with the exception of five specialists who have been assigned to flight test engineering for special development work.

Canadian Vickers Building 50 DC-4's

Canadian Vickers, Ltd., Montreal, is building 50 DC-4's for use by the publicly owned Trans-Canada Air Lines at a target price of \$350,000 each. It was disclosed at Ottawa in a talking of correspondence in the House of Commons between Canadian Ministers and Supply Minister C. D. Howe and Canadian Vickers.

It was announced some weeks ago that Canadian Vickers would build the aircraft for the Canadian government under an arrangement with Douglas Aircraft. Details were disclosed in the tabling of correspondence. Delivery of the first aircraft must be within 13 months of delivery of engineering data to the company. Canadian Vickers will receive a fee of two percent. The plant is partly owned by the government.

Order May Be Revised:—While the contract calls for construction of 50 aircraft, the government may expand or reduce the number with a corresponding adjustment of the target cost figure, which was based on the C-54A type aircraft built by Douglas for the USAAF. The price may be adjusted as costs are found to differ for the Canadian DC-4.

Taking costs in the government-owned plant of Canadian Vickers are to be paid by Ottawa on a separate basis of actual cost without profit or fee. As an incentive to keep costs of the aircraft at or below the target figure, the company's fee will be decreased by one-tenth of one percent for every \$10,000 increase in price, the fee will be increased similarly for every \$10,000 decrease in the target price.



Gene Photo



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Return of More Planes Presents Reconversion and Crew Problems

Raising of ceiling from 200 to 300 and aerial egress back of aircraft, with more in offing, give airlines new complications.

By MERLIN MECKLE

Sudden reversal of their equipment situation has confronted the airlines virtually overnight with new problems of reconversion and crew availability.

The carriers long have argued that they be given back more of the planes of which the war deprived them. Now the ceiling of 250 planes to which they were limited for wartime operation has been lifted to 300. Eighteen planes have been allocated since mid-May, and the Army says enough may be available before the end of the year to reach the 300 limit.

Radio Equipment Needed—This brings new for immediate solution of questions of adaptation to commercial operation of the returning

planes, now equipped for military use, and that of obtaining the crews to fly them. Radio equipment is a serious need.

The reconversion problem, as it confronts the smaller lines, seems more serious than that of crews. With the larger lines, it's simpler. They have the shop facilities, the material and the personnel to make the changes. But they are more worried about where to get pilots than are the smaller lines.

Standards Maintained—Some of the latter have been informed that their contracts with the Air Transport Command are soon to be canceled, and this will make more men available to the pilot pool. Expectation is that all ATC domestic contract operations will be

Planes in Service

Civil Aeronautics Board has compiled this table to show by airline the total of transport aircraft of all types in domestic service on commercial airlines as of May 10, 1945, and the same date last year:

	1942	1944
American Airlines	76	52
United Air Lines	52	52
Transcontinental	40	34
Western Air	40	34
Eastern Air Lines	30	24
Penn-Continent	10	10
Brussels Airways	15	0
Northwest Airlines	16	10
Delta Air Corp.	5	0
Western Air	12	0
Chicago & Southern	4	0
Colonial Airlines	4	0
Northwest Airlines	6	0
Continental	5	0
National Airlines	5	0
Mid-Cont. Airlines	9	0
United Air Lines	5	0
TOTAL	307	214

eliminated later this year, the Command flying the routes with its own planes. The lines also have been moving their own co-pilots to the left side of the plane as rapidly as they could, a process that has been faster than in normal times because of the hours the flyers have obtained on these same ATC contract flights. Admittedly the crew problem is tough and, as spokesmen for the industry say there will be no lowering of standards, either in pilot qualifications or plane maintenance.

There is little doubt that the pilot situation is better than it was. Chief of CAA's War Training Service schools is releasing a large number of pilots, and while it appeared at first that a transition period of some extent might be necessary before they could start flying the commercial runs, it now is said that they can step into airline jobs with less delay than was thought necessary.

More Planes Asked—Despite the fact that the airlines are receiving planes in substantial numbers, in some instances the cry for more has not subsided. This comes from lines such as Continental, Mid-Continent, Inland and National, which have no DC-3's but want to show up in the new Lockheed Ledsters. The Army has made available a number of Ledsters, DC-3's, Boeing 281-D's and Lockheed 14's, but without loggers. Parts are hard to get, and the

smaller lines feel that unless it can be made clear that such planes were accepted only on a tentative basis, until such time as DC-3's are available, they run the risk of having planes on their hands that are uneconomical as well as obsolete.

Another problem in this connection is that of cost. The planes being returned now are those the Army purchased outright, all the leased ships having been turned back earlier. This means that prices on the planes now going to the airlines are yet to be determined. On the leased plane, part of the agreement was that they should be returned as fit for commercial air transport as when they were taken. Now the Army stood the cost of reconversion.

Cost Up to Airlines—On the repaired planes, however, that cost will be up to the airlines. Hence it is a prime consideration for the price to be paid for each plane. This figure will be paid out for each ship, when a lease for cost has been established, on a formula that will take into other factors into consideration. In the meantime, the lines to which the planes have been allocated are waiting for the bill.

A move is on foot to reverse some certification rules suspended because of lack of equipment, but that probably is some distance in the future. First returns are being used on Eastern and Continental break priority bulletins on heavily traveled route segments. When that has been accomplished, the other may follow.

Utilization—The lesser the lines have learned about plane allocation are arriving their will. Although the return of some planes alleviates an extremely tight situation, there seems to be doubt that utilization will emerge much from its present low level.

Thus, if the total of planes returned reaches the new 300 ceiling, the lines probably will do much more with the 300 than they did with the 250 before the war. Then the average work day for a plane was seven hours. Now it is closer to twelve. To say the same thing another way, before the war 300 planes at seven hours a day did 2,100 hours a day, while 300 at twelve hours do 3,600.

Efficiency to Increase—Assuming the same plane types use on the lines after the war, utilization will be more efficient than it was pre-war, but probably not as efficient



AMERICAN EXPORT ALTITUDE TEST CHAMBER.

American Export Airlines tests flight and engine instruments, oil, pressure and gasoline, and other fluids in this high-altitude test and calibration chamber, fitted with a refrigeration unit and vacuum pump. Temperature range is from 80 degrees below zero to 200 above, Fahrenheit. Pressure can be simulated up to 60,000 feet. In the picture at left the altitude reader area, at right, 51,000 feet. Decrease in pressure has caused the expansion of the meteorological balloons.

as now. At present, people will take time starting any time of day or night. This permits turn-around of all ships at the convenience of the operators, and some lines are operating at 90 percent of capacity.

With all the talk of luxury liners after the war, however, an expected public may force the airlines into some practices less economical than their wartime streamlined operations. That is a problem the airlines are content to let rest for the time being.

First Batch—Return of the first 14 planes above the 250 limit was announced by three agencies: Civil Aeronautics Board and Post Office Department based on one announcement. The War Department said the other. Less than a week later CAA and the War Department simultaneously disclosed that the second batch of 14 planes was being made available.

The first group included DC-3's and C-52 Douglas Skoper Turpin, which now will be fitted with light-weight seats. Of these, United and TWA were allocated three each, American, Eastern and Pennsylvania-Continental two each, and Braniff and Chicago and Southern one each.

Second—In the second group, announced late last week as all DC-3's, there are to go to American, Northwest and Eastern, and one each to PCA, Colonial and Chicago and Southern. At least one line plans to use a returned plane for

pilot training in addition to fitting it in as an extra section on some of its heaviest flights.

Planes that went to operators west of the Mississippi were particularly welcome, since that, according to airline sources, is the area where most of the priority bulletins occur.

Others Returned—In addition to these ships, about 30 smaller and older models, the so-called minor types, have been released to Alaskan Airlines and Lake Umbagog. Both are recommended by CAA and the State Department. These include Boeing 247-D's, Lockheed 10-A Electras, and Stinson Tri-motors.

Added to the 25 or 30 more planes the War Department said the Army Air Force may be able to allocate to the airlines "during the next few months" this brings a total of 58 in sight over the 250 cap which the President raised to 300 Apr. 19.

More to Come—Moreover, the Department stated that if nothing intervened to prevent anticipated deliveries, "the Army Air Force expects that the 300-operating total will be attained by the end of this year." According to CAA figures, this will give the airlines only 14 fewer planes than they had in domestic service May 10, 1942.

In the CAB-Publicity Department announcement, Postmaster General Frank Walker pointed out that since June, 1942, air mail has grown from 31 billion pound-miles to an estimated 80 billion.



RETURNED ATC FLYERS INSPECT C-46.

A crew of Air Transport Command flyers who have been taking Curtiss C-46 Commandos over the hump regularly on the aerial Burma road prime training-ground for the big transports, tested the Curtiss-Wright assembly plant for C-46's at Louisville recently. Shown inside a C-46 cabin are Master Sgt James Perrier and Tech Sgt Albert J. Terry, looking over a check list with an employee.

Airlines Challenge Colo. PUC Control

Four companies seek review for jurisdiction and proposed state regulation of interstate and intrastate flying.

The Colorado Public Utilities Commission received with emphasis last week earnest thought on a proposed set of state regulations for interstate and intrastate air carriers. A conference on the proposal was held at Denver.

Four airlines challenged PUC's jurisdiction over interstate carriers in intrastate commerce. Civil Aeronautics Board counsel contended the proposed rules would be an unnecessary burden on interstate commerce.

In addition, some representations occurred in Congress when Representative Baldwin, Lea Hill exponent, told the House in the Congressional Record that the suggested regulations were in direct conflict with federal regulations.

Explanation—The hearing brought from E. B. Riva, PUC attorney, an explanation that the rules may or may not be adopted, but were designed to meet safe flight and protect interstate operators now unregulated in intrastate commerce. The regulations were drafted to cover the granting of certificates of convenience and security, and scheduled air carrier rules.

The Commission announced it would accept briefs within 30 days from those appearing in the proceedings, and then hold another hearing.

The airlines are expected to contain not only objections and criticisms, but statements of policy as jurisdictional phases in the proposal. Informal conferences with the Commission's staff, in the meantime, were encouraged.

42 Pages—Most of the session was spent in point-by-point discussion of the 42 pages of proposed regulations, compiled from present Colorado rules governing motor carriers and CAA regulations. Delations for the regulations were adopted from Massachusetts air carrier rules.

In addition to interstate airlines, intrastate air carriers, motor carriers, railroads, Civil Aeronautics Administration, CAB and the Air Line Dispatchers Association were represented at the hearing.

Present—Among those who appeared

George C. Neal, CAB's general

counsel, said the regulations presented a question of policy and safety and would provide nothing not now in federal regulations.

Hol C. Thurman, counsel for Braniff Airways, questioned the Commission's power to regulate air carriers and said that because of danger of confusion from conflict of federal and state laws and jurisdiction, he saw nothing to be gained.

Congressional—R. J. Masten, Jr., of Continental Air Lines, said his company concurred with Braniff on the legal question. He proposed that the Colorado regulations stipulate that an air carrier operating under federal authority be assumed to have complied with them.

Wilfred G'Leary, Inland Air Lines counsel, said the airline's appearance did not constitute any agreement with the power of the Commission to regulate interstate air carriers.

United—Stanley T. Walbank, attorney for United Air Lines, declared that though air carriers might serve two or more points in Colorado, they remain interstate in character and subject only to federal regulations.

Worth Allen, attorney for S. N. Drama, who recently was certificated by the PUC to operate in-



ELECTRICAL DETECTIVE

United Air Lines has developed an "electron napper" to detect electrical leakage from insulation, defective insulation or carbon accumulation in ignition systems. Said to be more sensitive than other similar commercial devices, the machine has a portable vacuum tube voltmeter which applies 1,200 volts of direct current across insulation under test.

travels air service between Durango and Denver, Colo., said the interstate air carriers knew "they are breaking on their ground when they say PUC has no jurisdiction over interstate air carriers engaged in intrastate commerce."

On the question of single or multi-engine equipment use by intrastate air carriers, to be the subject of another informal conference with the Commission, Allen maintained it was more important to have a pilot familiar with mountain flying than to use two-engine equipment.

Inland Purchase Approved by CAB

Western Air Lines grew 1,351 route miles last week when the Civil Aeronautics Board in a 4-to-1 decision approved its acquisition of control on Inland Air Lines by purchase of 184,258 shares, or 83.97 percent, of Inland stock for \$347,319.

In addition, the Board approved a plan whereby Western can acquire the 26,977 shares outstanding after the purchase.

Certificates—The board furthermore will permit Western to purchase all assets of Inland or merge Inland into Western, in either case acquiring Inland's route certificates. Either plan must be submitted to the Board for approval within two years.

In effect, the acquisition will give Western a 3,574-mile route system. The decision was based on "surer, more efficient and economically sound" operation of Inland, which the Board said should result from the acquisition.

Majority Opinion—The majority opinion was that "although the proposed acquisition will accomplish little in the development of an integrated and coordinated system," the improved administrative and economic conditions to be expected under Western management justified the approval.

Member Josh Lee, in a dissenting opinion, declared that "by approving this acquisition, the Board closes the door of opportunity to the possible future development of a much better route pattern for that area. The approval of a merger is as permanent as the granting of a new route, and should be approached with the same concern for a properly integrated air system, because once it is done, it cannot be undone."

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CAB Declines to Act On Panama Terminal

Refuses to take jurisdiction in
absence of application by carriers

The Civil Aeronautics Board refused last week to take jurisdiction over the question of a U. S. terminal for Panagra, holding that to do so on its own initiative, in the absence of application from the carrier, would involve an extension of the South and Central American operator's routes that would constitute a basic transformation beyond the board's powers under such circumstances.

The decision was a victory for Pan American Airways, which from the start had contended the attempt by W. R. Grace & Co., with which it shares equally in Panagra's control, to obtain such a terminal.

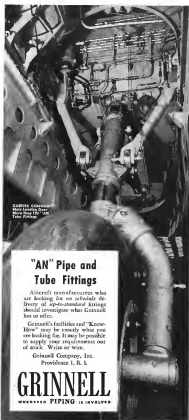
▶ **No Application Filed**—Pan American and W. R. Grace were unable to agree on the filing of Panagra's application, with the result that none was filed. The proceedings to determine whether public convenience and necessity required extension of Panagra's Buenos Aires-Cristobal route to a terminal at Miami, Tampa or St. Petersburg, Fla., were instituted by the Board.

Hearings were held last September, and Pan American then filed motion to dismiss for want of jurisdiction. The Board issued the terminal order last week.

▶ **Criticism**—In doing so, it directed sharp criticism at the situation which deadlocked the two owners on the question of an application. Regardless of which outcome was at fault, the Board said, the Government of the controversy "indicates that an unhealthy condition exists in the internal affairs of the company. This is an inherently bad situation."

Extension of Panagra's operation to a Florida terminal would have increased its route mileage approximately 1,200 miles, or about 14 percent of its existing mileage, at an added cost of about \$503,999. This compares with Panagra's gross assets at the end of 1942 of \$10,700,000 and its net worth, exclusive of goodwill, of over \$3,500,000.

The Board remarked that requiring of the extension would be outside the powers granted CAB by the Civil Aeronautics Act to alter or modify the certificate.



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WHATEVER PIPING IS INVOLVED

CIO's Economic Outlook Gives Novel Study of Aircraft Profits

Union's Department of Research and Education reaches some unusual conclusions as result of "new method" of analyzing capital investment.

An interesting experiment in accumulation of the aircraft industry is advanced in the current number of *Economic Outlook* issued by the CIO Department of Research and Education.

Regardless of how viewed, the premise of the "study" is so fallacious that the entire argument topples from its own weight. In the opinion of the writer, this sort of reasoning could be very damaging as it encourages to distort and irresponsible thinking which can serve to further complicate the industry's post-war adjustments.

New Method Used—The CIO analysts say the largest aircraft companies in 1942 realized a net profit after taxes of \$1.79 for every dollar actually invested. The basis for this finding is a "new method" of analyzing capital investment. This "new method" applied reactively to its ultimate conclusion, would soon delude the most ardent "share-the-wealth" proponents.

The basic idea is to "allow stockholders a reasonable rate of return each year on the money that actually has been put into the business. Earnings above that rate are considered excessive, a result of paying workers too low wages or charging consumers too high prices. These excess profits should, therefore, rightfully be considered as a worker-consumer contribution."

Investment Divided—Total investment, according to this new philosophy, is divided into two parts, the worker-consumer contribution and the stockholders' adjusted investment. This new approach would credit stockholders with new money resulting from the sale of stock. However, surplus earnings retained in the enterprise simply do not belong to the stockholders and are, therefore, not part of invested capital. The CIO takes the position that the aircraft in-

dustry is entitled to an 8 percent return on the original investment and no more—the balance should for all practical purposes, be redistributed and distributed to the worker.

Now, just how many things are wrong with this picture?

It is hard to believe any labor group is to be naive as to advance any proposal which would so completely destroy an industry and automatically abolish all the jobs



JG COLLIMATOR.

Parts of old surveying apparatus, retooled into a simplified form of transit, have given the aircraft industry an instrument for precision statement of jobs on production floors. Commercially identified as the *Benger Aircraft Jig Collimator*, it was originated by J. I. Hall, of Douglas, who is the group engineers and George E. Greenwald, of *Surveyors Service Co.*, Los Angeles.

created. If declared operative, the CIO proposal would do just that.

Profits Ploughed Back—In the first place, the early reason the aircraft industry of 1942 is so successful survived its initial stages was because most of the early profits—where present—were necessarily ploughed back into the business. Moreover, if such surpluses were not retained, additional capital would have had to be sought elsewhere and in other forms. Yet by the CIO formula, those additional funds coming from the outside would be properly considered an invested capital. Further, there was rarely any assurance that additional capital from the outside would be available when needed.

The stockholder, on other hand, by foregoing immediate profits, gives to the enterprise the financial strength to carry on, to expand and to create more opportunities and larger payrolls for the employees.

Nevertheless, the CIO maintains any proposal which would so completely destroy an industry and automatically abolish all the jobs does not count. Just how many companies would have been able to expand, let alone exist, under such a policy? Moreover, how many workers would be willing to risk their capital in a venture that was full of risks and with no assurance of success and take 8 percent on their money—of the corporation paid out?

Stock Prices Low—If anyone has come to conclusion, it is the aircraft stockholder. The CIO formula can be thrown out of the window by a glance at the market quotations for aircraft equities. These shares have been at their lowest levels for five and five years and more. On this basis, the aircraft investor appears to have the short end of the deal thus far.

The CIO is disturbed, too, by the large salary payments made to aircraft executives. An examination of these payments shows that in relation to the volume of business handled and risks assumed, aircraft executives do not appear to be drawing excessive salaries measured by accepted standards in American corporate practice.

Management—The main commodity management can offer is ideas—engineering proposals, product economies and revised administrative systems. The invested capital is kept in these contributions? For example, should a consultant be invited to 8 percent on his investment when his entire

capital assets consist of a type-former, table and chair?

An entire new industry has been developed because of aviation pioneering and hosts of jobs created because "venture" capital was willing to take a chance. It is this incentive for constructive achievement and the attention profits that have constantly led to new developments and new industries. Without that incentive, many an industry would never have been born and widespread unemployment would have been aggravated. It is true the government has poured substantial funds into the aviation industry as part of the war effort. But would there have been the nucleus of a sound aviation group ready to expand many-fold if it had not been for pioneering and venture of management and capital?

The CIO claims that earnings above 6 percent can be attributed to paying workers too low wages and that such a situation is a principle in an unusual way of looking at it.

Likewise, even the co-operatives operated by worker groups recognize the principle of retaining "surplus" earnings to so further the success of the enterprise. Certainly, in this case the co-op would hardly be accused of profiteering.

Eastern Air Lines Reports on Income

Eastern Air Lines, Inc., paid its president, E. V. Rickenbacker, a salary of \$25,000 last year, according to the company's annual report to the Securities and Exchange Commission for 1942.

Paul H. Brantley, first vice-president and director, was paid \$27,120 for the same period, and S. L. Shreve, second vice-president and director, received \$25,120.

Stock Purchase Contract—Under his employment contract with the company, Rickenbacker exercised his right to purchase 1,000 shares of the company's common at \$10 a share. Similarly, Brantley and Shreve exercised their right to purchase 2,000 and 500 shares, respectively, at \$10. In addition, Shreve exercised his right to purchase 375 additional shares at \$12 a share.

Total operating revenues were \$15,701,387 and after deducting \$10,694,644 for operating expenses, income from operations totaled

\$5,006,743. Miscellaneous items of \$192,316 brought income to \$5,199,059.

Balance—After deducting \$100,000 to provision for contingencies, balance before payment of federal income and excess profits taxes was \$3,179,059. Income for the year totaled \$1,423,858 after payment of \$3,159,665 in taxes and leaving a net \$208,004 after estimated federal normal income taxes. Taking into account \$1,610,000 representing extensive provision for 1943, balance transferred to surplus at the end of the fiscal year was \$3,376,935.

TWA Gives SEC Data on Earnings

Transcontinental & Western Air, Inc., paid its president, Jack Frey, \$26,068 for 1942, according to the company's annual report to the Securities and Exchange Commission.

Paul H. Richter, executive vice-president, who resigned to enter the Navy effective Jan. 4, 1943, was paid \$25,000, the equivalent of one year's salary, for the full year of 1942.

E. Lee Tallman, executive vice-president, was paid \$20,742.

Low Firm Cost—The company paid a low firm of Chadbourne, Wallace, Part & Whitehead \$142,788 during 1942, but that included services rendered during the previous year. Joseph E. Casoy was paid \$12,616 in legal fees last year, and \$17,800 was paid to Cowderick & Collins, industrial engineers.

Operating revenues totaled \$19,312,835, derived as follows: passenger, \$11,869,000; mail, \$4,996,000; express and freight, \$1,203,252; excess baggage, \$234,241; and other net income, \$345,428.

Operations—Total operating expenses amounted to \$15,628,225, showing a profit from operations of \$3,684,610.

The largest items of expense were flying operations, \$3,092,726; ground operations, \$2,214,247; and general and administrative, \$2,129,213.

Gross effect on income credits and other items, there was a net income of \$5,020,192 before provision was made for income and excess profits taxes. The federal normal tax and state taxes amounted to \$1,564,775, excess profits tax was nil and state income taxes amounted to \$4,551, leaving net income for the year \$3,050,890.

Financial Reports

Pathefilm Currents and Instruments Corp.—The company's annual report revealed annual sales kept pace with the rise in earnings going from \$1,204,397 in 1941 to \$47,359,386 in 1942. A profit after reorganization for 1942 was \$407,044, compared with \$1,459,116 before reorganization settlement last year.

Directors of Breco Corp., Inc., have voted a dividend of 40 cents a share, payable June 10 to stockholders of record.

This brings the Breco dividend payments this year to 30 cents.

Best annual dividend of \$1.50 per common share will be payable June 13 to stockholders of record June 2, the Glass Co. Martin Co. issued voted at a meeting in Baltimore. Company is in full production of B-24 Minutemen and PB4C-1 Mariners.

Glen L. Martin, president, told the board, adding that the Shenandoah subsidiary is producing B-29's.

American Airlines reports for the first quarter of 1944 net profit after taxes, of \$907,708, a decrease of \$541,874 from the \$1,158,772 net of the 1943 period. Income as reported for the quarter rose \$4,622,929 in 1943 to \$13,134,637 in 1944, due to preparations for expanded operations when additional equipment is available and the need for higher and trained personnel as replacements for draftable employees is given as the reason for the decrease. Gross revenues for the first quarter of 1944 was \$7,484,584 compared with \$6,972,850 last year. Revenue rises down also increased from 6,120,963 in 1943 to 6,238,506 this year.

Aire Equipment Corp. reported net income for the quarter ending Feb. 28 was \$208,448 after \$1,145,177 for taxes, equal to 92 cents a share, compared with \$318,788 or \$1.02 a share after \$945,803 taxes for the February quarter a year ago. Gross sales amounted to \$4,919,620 compared with \$3,284,774 the year before.

Convair Contract

A contract between Consolidated Vultee's Fort Worth division and the Army Air Materiel Command at Wright Field for \$320,000 of machinery and equipment for experimental purposes has been announced by Frank Clifton, plant engineer.

Forward Step for the Chamber

SELLECTION of John Lee to direct reconstruction of the Aeronautical Chamber of Commerce is an encouraging move toward ultimate constructive results. Lee's intimate knowledge of the industry's problems on the West Coast and his unique experience as manager of the highly successful, pioneering West Coast Council can be put to good use for the national industry in his new post.

Fortunately, the top executives of the industry saw eye to eye in agreement on plans to strengthen their own

association, displaying a unity which has been lacking frequently in the past when the industry has been faced by common problems.

Lee is emphatic on the point that his Chamber assignment is temporary, while he prepares the way for a permanent reorganization. With his background he must be cognizant of the difficulties of the job and undoubtedly takes over with definite plans which should advance the industry toward solution of the complex problems in readjusting to peacetime economy.

Teamwork Downs Planes

AN ANNOUNCEMENT by the Eighth Air Force recently giving a flyer credit for 28 planes downed in air combat and eight destroyed on the ground resulted in headlines crediting the ace with 36 Stuka aircraft.

The result was worldwide confusion and consternation in the Army and Navy Air Forces for several days as public relations officers queried Washington on how aces were to be designated. Navy pilots immediately asked if they were to be given credit for all

the planes aboard a Jap carrier if they sank one, and what about the South Pacific pilots who have destroyed hundreds of aircraft on the ground?

Army and Navy authorities promise no changes in scoring methods. Combat and strafing losses will continue in separate categories. Meanwhile, with all credit to those pilots who have run up high combat scores, they would be the first to concede that teamwork knocks enemy planes out of the skies.

Overcoming Limitations

EARLY THIS YEAR some of the better known war analysts were making the most of the fact that air power had been unable to top up a nation's railroad network. Shortly afterward the Allies' aerial drive on Italian communications began in earnest. Now, in his most recent press conference, General Arnold reveals that the railroads in northern Italy have been paralyzed since late March. Electric damage is being dealt all communications in western Europe. It would appear that another of aviation's limitations has been eliminated.

The final answer to the air power debate probably won't come out of this war. As long as technical developments continue there can be no final answer. Based on past performance and improvements in aircraft which are already planned for battle use within a year, the odds are powerfully against the postwar. We are, for example, still building up our air force in England. General Arnold reports that our maximum blows won't be struck for several months.

The conclusion of Maurice Chailin, following an interview with the AAF's commanding general and a series of articles on the subject is that "anyone who says that airpower has been overrated will be proved later to have talked too soon. The reports aren't in yet."

Yet it was only a few years ago that President Roosevelt announced publicly that he wanted this nation's aerial capacity built up to 30,000 units a year. There was private discussion, even in the aircraft industry, over the newspaper's accuracy in reporting the President's figures. Last year, of course, this total was nearly doubled.

The air transport industry is confronted with something of the same difficulty in estimating public response to commercial flying after the war. Present-

day economies suggest a phenomenal increase in traffic cannot develop. Costs are too high. But who is to say that the nation's airlines five years later would be carrying three to four times as much traffic with the same stringer pilots, and fewer of them, and remain on the profit side of the ledger?

The newest member of the Civil Aeronautics Board, Jack Lee, believes that air traffic will increase so rapidly after the war that those in aviation who do not act quickly will lose out. When Billy Mitchell was advocating more airpower with the aid of an evangelist he was severely criticized because his critics based their judgment on the airplanes as it was then and looked the vision to see the possibilities it held for the future.

"To depend entirely upon comparison with other forms of transportation in order to determine how much future air traffic there will be is to misunderstand the mark," the CAB member said recently. "There was a time when the automobile was only for the rich. Air travel can become as essential as travel by automobile."

"Aviation probably requires more vision than any other industry because in this field change is so fast and improvements so rapid. Those who make decisions yesterday must revise them tomorrow. Calculations made only two years ago are already outmoded."

The future is not entirely optimistic, of course. Construction in going production facilities may drop 16 percent immediately after the war. But the more opportunities given air power in this war to show what it can do the less likely it is that the nation will permit our industry to close down to anything like its pre-war size.

Neither MILITARY air power nor commercial air transportation will reach its zenith for years.

ROBERT H. WOOD

plane talk



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